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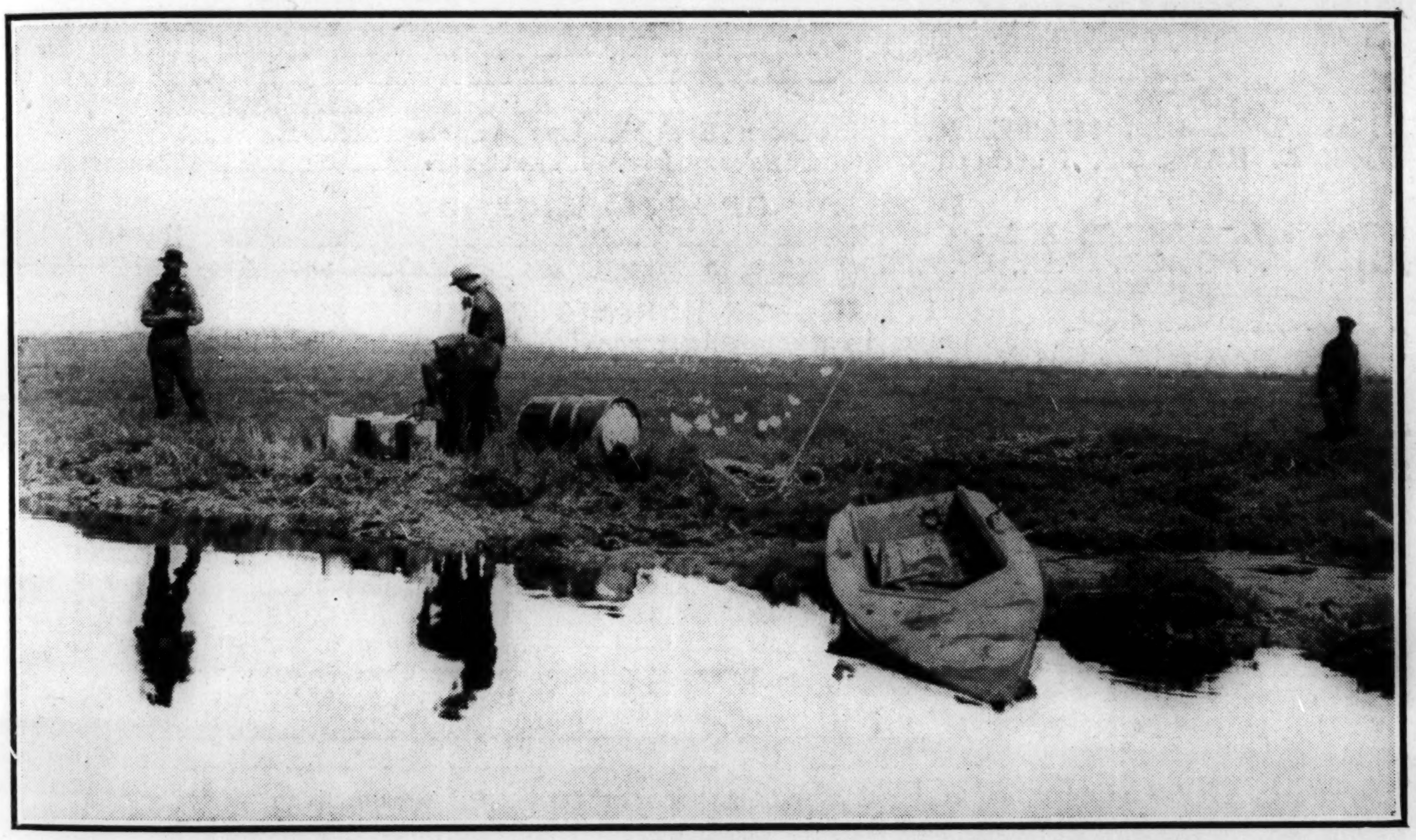
CALIFORNIA STATE BOARD OF HEALTH

MONTHLY BULLETIN



Mosquitoes in the vicinity of California shipyards became such a nuisance that, at times, ship building had to be suspended. The construction of ditches in the surrounding salt marshes and the oiling of breeding places have removed this menace. The building of ships for the winning of the war now goes on without hindrance.

¶ SANITATION OF SHIPYARDS
DEVELOPMENT OF COUNTY HEALTH WORK

¶ AUGUST, 1918

California State Board of Health

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CALIFORNIA STATE BOARD OF HEALTH

MONTHLY BULLETIN

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MONTHLY BULLETIN

CALIFORNIA STATE BOARD OF HEALTH

Devoted to the Prevention of Sickness and Death

Entered as second-class matter, August 15, 1905, at the post office at Sacramento, California, under the Act of Congress of July 16, 1894. Acceptance for mailing at the special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 27, 1918.

Sent free, on request, to any citizen of California.

WILFRED H. KELLOGG, M.D., Secretary and Executive Officer . Editor
GUY P. JONES, Assistant to the Secretary . . Associate Editor

Continued Improvement In Venereal Reports. During the first six months of 1918 nearly two thousand cases of gonorrhea have been reported to the State Board of Health, and nearly fifteen hundred cases of syphilis have been reported during the same time. There is a continued marked improvement in the reporting of cases of venereal diseases and by the end of 1918 it is certain that many thousands of cases shall have been reported. In fact, from the present outlook, it is expected that more cases of venereal disease will be reported this year than cases of tuberculosis.

* * *

The Old Story of Privy and Well. One of the State District Health Officers recently arrived in a small unincorporated town in his district. He noticed that a new cesspool was being excavated near the hotel and found that it was within thirty-five feet of a well which supplies water for the whole community. The pit was to be twenty feet deep with holes sunk from its bottom to the first sand strata, which in itself is contrary to the state regulations. The adjacent well is only seventy feet deep. It is difficult to conceive of more ideal conditions for the contamination of the water supply of the community. The owner was notified and met the district and county health officers. As a result of the conference the owner agreed to carry off the effluent from the septic tank to a distance of several hundred feet and discharge into a suitably constructed cesspool.

* * *

Protect Young Children From Whooping Cough. Whooping cough is one of the most serious diseases affecting young children. Last year 200 California children died of this disease and 10,000 children of the United States were victims of this preventable disease. The story of whooping cough is not told in the deaths due to this disease alone, for the sequelæ are often more disastrous than the disease itself. Tuberculosis follows whooping cough more often than any other disease of childhood. Young children, therefore, should be more carefully protected against whooping cough than against any of the diseases that are common to children. Not to do so may affect the health of the child during his whole life.

Midwives and the Infant Mortality Rate.

There are a great many dirty and ignorant midwives in California. Needless to state, it is important that midwives should be clean as well as educated in their profession. One big factor in the increase of an infant mortality rate lies in the ignorance and uncleanliness of midwives. One of the State District Health Officers recently called upon a midwife residing in his territory for information relative to the filing of a birth certificate. In discussing the matter with her she stated that she did not believe in the use of nitrate of silver for the prevention of blindness in infants, and said that she did not care to use lysol because she did not know what kind of a bottle it had been kept in. The health officer asked her, "Do you have any infections around here?" to which the midwife replied, "Oh, yes, we keep them around but seldom use them."

* * *

San Leandro Makes Sanitary Inspections.

San Leandro has employed a full-time health inspector for the past three months. During the time that he was employed, he examined 632 school children. The percentage of defects found in them were as follows: Enlarged tonsils, 27.3; slightly enlarged tonsils, 15.5; decayed teeth, 62.3; defective vision, 22.5; defective hearing, 3.6; enlarged glands of neck, 7.5; normal, 18.3.

The inspector located 34 homes with insanitary sinks, 52 with insanitary toilets, 250 homes with insanitary bathtubs, 125 yards and 100 homes in insanitary condition, and many other matters needing correction. Most of these insanitary conditions were removed, and San Leandro is now in a cleaner condition that it has ever been in its history. In fact, so much good was accomplished by the inspector that it is proposed to continue this work permanently. In commenting upon this work Mr. William B. Zambresky, editor of the San Leandro *Reporter,* says:

> Continuation as to sanitary inspection of conditions of San Leandro is urgent, if one takes into consideration the seriousness of conditions in certain quarters of this city. The work accomplished by the special inspector who just completed his three months labor along this line has been highly commended by our authorities, physicians and principal of the public school. Those who are in a position to know what work has been done, realize the necessity of a continuation of the investigation made that means the improving of the unsanitary conditions. The one great fault is that parents are negligent in giving their children the proper care and attention, as well as keeping their premises in a sanitary condition. What is needed is education along these lines, and the only way to accomplish results is to have an inspector constantly on the job. What money the city has spent is nothing when one takes into consideration the health that is preserved and the death rate that has diminished. The three months inspection has brought wonderful results. People are beginning to realize the necessity of bringing up their children in a more healthy manner as well as to keep their premises sanitary. In this short space of time many changes have taken place in San Leandro for the better, and if continued the city will soon be one of the cleanest and most healthy communities in the state.

* * *

Vaccination Histories Of Smallpox Patients.

Vaccination histories are required for all cases of smallpox that are reported to the California State Board of Health. Nearly all persons who have contracted smallpox in California so far this year have never been vaccinated. A few had been vaccinated more than seven years preceding their attack and a few had been vaccinated within the seven years preceding their attack, but very few. From the standpoint of economy it would be very much cheaper to vaccinate every person in a community than to stand the expense of quarantine and treatment of persons who needlessly contract the disease.

SHIPYARD SANITATION.

Never before were so many men employed in the shipbuilding industry in California. In order that there may be adequate eating facilities for the increased numbers of men employed in the shipyards, restaurants and lunch counters have sprung up like mushrooms in the vicinity of every shipbuilding plant on the coast. The sanitation of these places has not kept pace with their growth and in response to many complaints the State Board of Health has conducted sanitary inspections of all eating places in the vicinity of the larger shipyards. At Long Beach the Board's inspector found over fifty restaurants, ice cream and soft drink stands, as well as other food supply places, which did not comply with the Food Sanitation Act. Most of these places occupied open wooden shacks, unprotected from flies, dust and dirt. As a whole, they were exceedingly dirty and the grounds surrounding the buildings were littered with garbage and filth of every description. These places were infested with myriads of flies which swarmed about the food in course of preparation and being served to the workers in the shipyards.

Typical shipyard eating place before enforcement of regulations. These places are now screened in, drinking receptacles are sterilized and all requirements for sanitation complied with.

The owners of all of these establishments were required to screen their places of business, provide facilities for the sterilization of drinking receptacles, install metal screens or glass containers for the storage of foodstuffs, and provide suitable lockers for clothing. They were required to have all rubbish and filth removed and were also required to procure metal containers for garbage, refuse, etc. The city authorities installed a sewer system connecting with the main line sewer discharging into the ocean. All of these restaurant owners were required to connect with this sewer. Before the installation of the sewer no plumbing facilities were provided in most of these restaurants. Three or four water-flush toilets were provided in the yards at the rear of the largest restaurants and these were connected with cesspools which overflowed at high tide. Since more than ten thousand men are employed in these big shipyards at Long Beach, the sanitation of these eating places has a great deal to do with maintaining the health of workers in the shipyards and therefore has a direct bearing upon the winning of the war.

The twenty or more large canneries in the vicinity of Long Beach also came under the inspection of the Board's sanitary inspector. In most of these places the doors and windows were not screened and numerous fly breeding places existed in and about the canneries, caused by accumulations of offal and other waste matter. The owners of the canneries willingly complied with the provisions of the Food Sanitation Act; doors and windows were screened and metal receptacles provided for refuse and other waste material. The hearty co-operation of the health authorities of Long Beach and Los Angeles was secured in this work. Similar operations are now under way in the territory surrounding the shipyards at San Pedro, Oakland and Alameda. The following are the rules and regulations of the Board for the sanitation of canneries:

These temporary shacks, open to flies, without means of proper waste disposal, unsanitary in every respect, were the only places where shipbuilders could obtain meals in the vicinity of the shipyards. These places have now been made to conform to strict sanitary regulations.

RULES AND REGULATIONS FOR CANNERIES.

1. No owner, proprietor, or manager shall require or permit any person to work, nor shall any person work, in any cannery who is affected with any venereal disease, smallpox, diphtheria, scarlet fever, tuberculosis, trachoma, typhoid fever, dysentery, measles, mumps, German measles, whooping cough, chickenpox, or any other infectious or contagious disease.

2. The entire plant of all canneries must be adequately protected from flies. This requires the adequate screening of all doors, windows, and other openings of the buildings, as well as the enclosure with fly-tight material, of those branches of the industry that are carried on in the open.

3. All rubbish and other refuse must be removed daily, in a manner satisfactory to the Health Commission; and all fly-breeding places in and about the premises must be abated. Measures must be taken for the destruction of all flies present on the premises.

4. Floors must be kept in a clean condition and free from accumulation at all times. All nonedible portions must be removed immediately from the rooms or places where edible products are being prepared, kept, or stored. Where wood floors are used it will be necessary to make them tight, in order to prevent entrance of flies from below, or the escape of offal and other refuse beneath the building. In no instance will the disposal of fish heads, scales, or other offal in such a way as to contaminate the bay or premises, under or about the canneries be tolerated.

5. All racks, implements, and other utensils must be thoroughly cleaned at least daily, the washing from which must be disposed of in a sanitary manner. Regulations outlined in section 4 must also be observed in this instance.

6. In every instance the reduction plant must be so separated from the remainder of the plant that there is no possibility of the contamination of the pack by its presence. This can be accomplished by the erection of dust-proof partitions or the adequate isolation of the plant. Fish meal must not be transported or stored through or in the cannery proper. Reduction plants are considered to be branches of the canning industry, and all of the above regulations referring to the latter are to be rigidly observed.

7. All canneries must be equipped with water-flush toilets and adjacent wash rooms. These toilet facilities must be tightly partitioned off from the remainder of the plant, vented to the outside air, with all openings tightly screened, and equipped with a self-closing door. Sanitary drinking fountains must be provided throughout the plant and paper towels and soap in the wash rooms.

8. Living quarters located on cannery properties must be equipped with water-flush toilets and sinks, all properly connected with a sewer. These living quarters, and the surrounding premises, must be kept clean and sanitary.

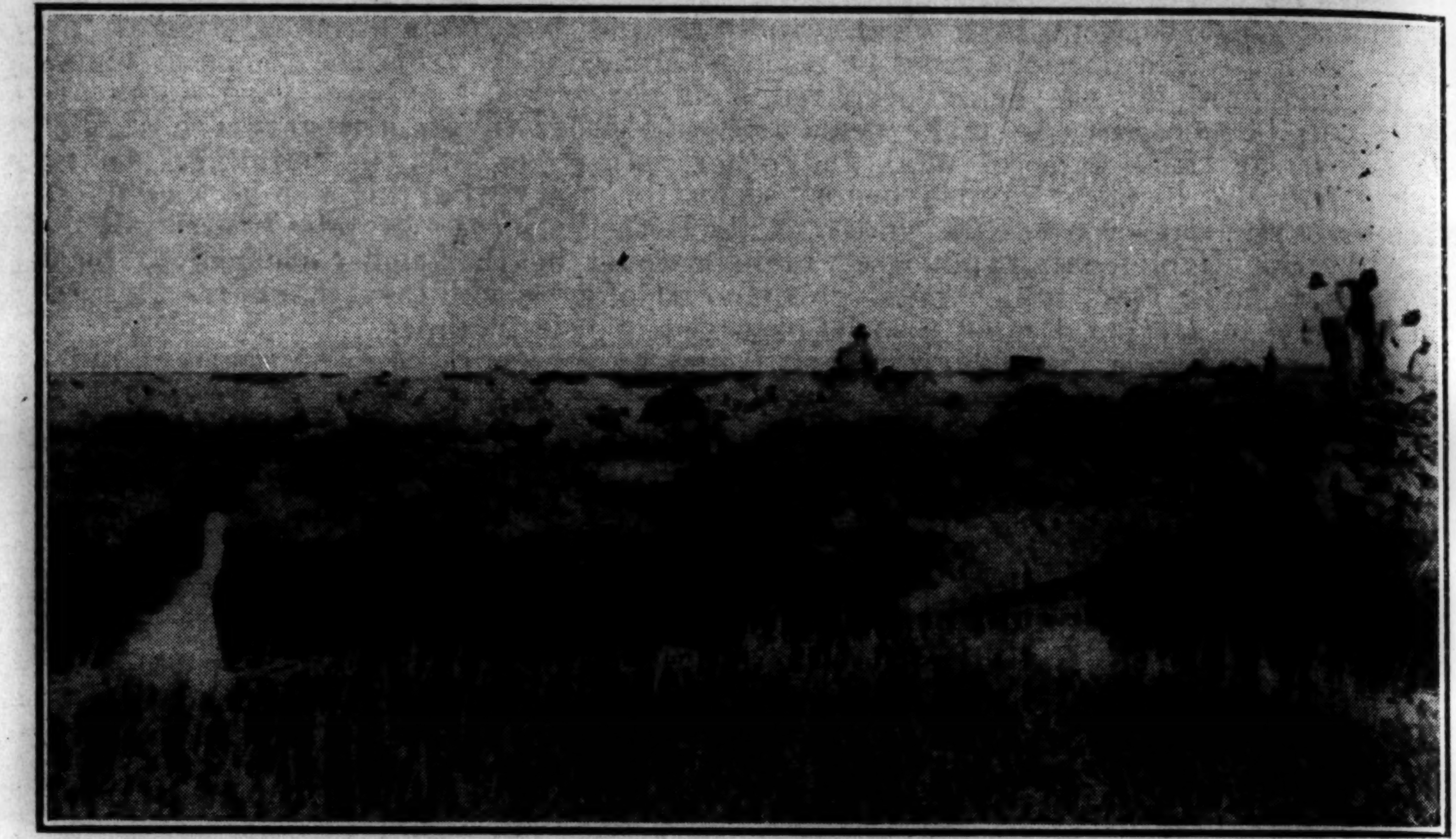
9. No spoiled, decayed or decomposed fish or other putrid matter shall be brought into a fish cannery, nor shall be allowed to remain upon the premises of any cannery.

MOSQUITO CONTROL OPERATIONS.

In addition to the sanitation of food supply places in the vicinity of shipyards at Long Beach, the mosquito nuisance was also taken up. At one time the mosquitoes were so numerous and interfered so greatly with the workers in the shipyards that the entire industry was threatened. In fact, the matter became so serious that the Governor of California was appealed to for aid. He referred the matter to the State Board of Health, with the result that Mr. Stanley B. Freeborn, Consulting Entomologist of the Board, and Mr. Edward T. Ross, Sanitary Inspector, were detailed to remove this menace to the shipbuilding industry.

It was found that the territory adjoining the shipyards, covering an area of about four square miles, consisted mostly of marsh land. The high tides overflowed this land, forming numerous breeding places for mosquitoes. In order to eradicate these insects it was necessary to conduct drainage operations, and where drainage could not be accomplished it was necessary to oil the breeding pools to prevent the development of the mosquitoes. The city of Los Angeles furnished an engineer and eight men, Long Beach supplied a superintendent and a daily average of about seven men for the ditching and oiling operations. The National Canners' Association, through Dr. Norman Hendrickson, Director of Investigations, furnished twenty men for this work at one time and twelve men at another time. They also gave the use of a motor boat and other conveyances for the transportation of workmen, implements, etc.

Through the co-operation of all of these agencies over two and one-half miles of permanent ditching and more than five thousand gallons of oil were used, resulting in the complete abatement of the mosquito nuisance in the vicinity of the shipyards. The supervisors of Los Angeles County also provided men to carry on mosquito abatement work in the rural territory outside of Long Beach and Los Angeles cities. These men worked under the direction of Dr. J. L. Pomeroy, County Health Officer. As a result of this campaign it is believed that the shipbuilding industry at Long Beach and vicinity will not be molested by these small but, nevertheless, important insects that constitute so great a menace to the public health.



In order to eradicate mosquitoes in the vicinity of shipyards it was necessary to undertake extensive ditching operations as well as the oiling of breeding pools.

DEVELOPMENT OF COUNTY HEALTH WORK.*

E. K. Miller, Assistant Surgeon, United States Public Health Service.

A discussion of county health work must be somewhat specific if it is to be intelligible, because the 3,000 counties of the United States vary widely in size, population, altitude, climate, wealth, and pursuits. Since we are met here as health officers of North Carolina, this discussion, athough quite applicable to county health work in general, will endeavor to adapt itself particularly to the average county of this state. This county will be about 600 square miles in size, will have a population of about 30,000, with a notable proportion of Negroes, will be economically prosperous but not rich, and will be distinctly rural.

In atacking the county health problem a sharp distinction between rural and municipal conditions must be drawn. In a city of 30,000 population the area covered is perhaps from 10 to 15 square miles, whereas the area may be 600 square miles in a county of similar population. While disease incidence in rural districts is lessened somewhat by the comparative lack of personal contact, the administrative difficulties are multiplied enormously by the area over which the health officer must work, the bad or impassable roads during certain months of the year, the lack of sanitary inspectors, policemen, and nurses, and the fact that rural people are not so accustomed to rules and regulations and are therefore harder to control. Thus, rural health administration requires special training. While I do not wish to discount the value of the special instruction for health officers given by the medical schools, I do wish to say that not one of the courses is conducted from the standpoint of rural needs and conditions, and that, therefore, the student is not fitted for rural health work. Nowhere is the man himself so important as in rural health work. In comparison, the personality of the municipal official is insignificant, since he is fortified by a routine system which keeps him more or less behind the scenes.

The first problem in county health work is that of funds. Inasmuch as the whole program hinges upon this factor, it is deserving of special consideration. Probably no county has a surplus above current expenditures. It is the universal belief of the citizen that he is paying all the taxes he can stand, an impression neither always true nor always false. As regards expenditures for health protection, there are, obviously, limits beyond which we would not be justified in going, especially in view of the fact that there is no such thing as absolute protection of health. On the other hand, there is a minimum below which organized and efficient health work in a county can not be undertaken, this minimum being about $3,000 a year, or in a county of 30,000 population, 10 cents per capita. That this is not excessive is shown by the fact that certain purely rural counties are now exceeding this amount and are proud of their investment. Indeed, if the money now spent in most counties in the old haphazard way in the absence of an adequate health machine were applied to the conduct of a business-like health department, the increase necessary to reach 10 cents per capita would be surprisingly small.

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*Read before the meeting of the North Carolina Health Officers' Association, Pinehurst, N. C., April 15, 1918, and reprinted from U. S. Public Health Service Public Health Reports of June 14, 1918.

Two thousand of the three thousand dollars above mentioned should be set aside for the salary of the health officer, and the remainder for running expenses.

In order to attempt effective health work, certain other minimal requirements must be provided for, as follows:

1. Equipment. (*a*) Automobile, bought and operated by county money. (*b*) Stationery and office furniture. (*c*) By all means an adequate system of preserving records. This is one of the weakest points in county health establishments generally. (*d*) Office help. Under the above budget not much can be invested in this way, but it is very essential to have some one, if only a child, always in the office to answer telephone calls and to keep the simple but necessary records.

2. A well-trained medical man who has the instinct for work and the personality and judgment suitable for accomplishing the desired ends. The idea of making health officers out of nonmedical men has gained popularity in some quarters, but in county health work there are many reasons making this even more of a mistake than elsewhere. In any case, the health officer must be a full-time man.

Starting with the foregoing minimal requirements, other facilities may be added *ad infinitum*. Roughly speaking, a county can get as much health protection as it is able and willing to pay for. For the average county these minimal requirements are about all that can be expected at first. The health officer should recognize the limitations of his position, and be prepared to sacrifice cheerfully the less important activities for the more important, so that his full capacities may be applied at the strategic points. One of the favorite fetishes which die so hard is, for instance, a laboratory. Unless the one-man health officer divorces himself from the idea early, he will waste precious time and good money, providing always that such good services are obtainable from the state laboratory as we now enjoy. Many recent developments in public health work, such as measures to meet the venereal problem, prenatal care, welfare work of various kinds, eugenics, and life extension work, are very attractive, but can not be actively incorporated into the early stages of rural health work.

As regards contagious diseases, the rural health officer has no choice. These constitute emergencies and he must attend to them as they arise. In connection with them he finds a duty in the performance of which he must be tireless—the training of his people in the prompt reporting of diseases. This will require time, patience, sometimes the pressure of law, and every atom of the health officer's ingenuity. The many devices which may be employed to secure more complete reporting can not be discussed here for lack of time. Suffice it to say that if the health officer secures good reporting the remainder of contagious-disease control becomes practically automatic. The practice of quarantining by registered mail is looked upon as particularly well adapted to rural needs, but it should not be employed as a routine measure.

All health establishments in their infancy will find themselves confronted with almost universally dangerous filth-disposal systems, or lack of any at all, in the home. No real progress can be made toward control of filth-borne diseases, therefore, until these insanitary practices are supplanted by sanitary measures. This may not be accomplished completely until the millennium, but much can be done. It has been found in the extensive rural sanitation work done by the United States Public Health Service during the past three years that better returns from small amounts of sanitary reform are secured than are really deserved. A very notable drop in the typhoid-fever rate has invariably followed the rural sanitation campaigns, even when the actual numbers of sanitary privies constructed bore but a small ratio to the total. It is fortunate that labors in this field are so rewarded, because the business is sordid and unattractive and health officers might persuade themselves to neglect it if the fruits were not so unmistakable. The health officer must plan to devote the major portion of his energies to this problem, especially during the summer months.

As to malaria, this is a disease of sectional prevalence, but in the average southern county there are most likely to be localities where the damage wrought by it is very extensive, the disease ranking very close to the white plague itself as a menace to human health, welfare, and life. Although malaria is one of the diseases capable of complete eradication, the best method to be used—namely, drainage—is unfortunately far too expensive to be undertaken on a comprehensive scale in many rural districts, unless the results at the same time contribute some adequate economic benefit, such as the reclaiming of waste land, or rendering more productive that already in cultivation. Consequently the co-operation of the health officer with the agricultural agencies in the extension of cultivation projects will furnish a sound basis for antimalaria work by the one-man health officer. For more immediate results the routine administration of quinine should be adopted as a policy and given persistent publicity.

It is quite within the power of a one-man health officer, also, to obtain a good general anopheline survey of his county by means of sampling collections of water wherever he may happen to be in the county. Having once determined the principal foci of infection, a limited amount of intensive antimalaria work will be found possible and of most value as a demonstration. Even the one-man health force is able to do this effectively by selecting a small unit, such as one school district, and making a house-to-house canvass of it, teaching the people what to do and how to do it, and urging their faithfulness in pursuing the course prescribed.

During the fall and winter months the health officer has work which compares favorably with the foregoing in importance. This is the physical examination of school children, together with some system of follow-up work.

Two other basic problems, tuberculosis and infant welfare, are unfortunately beyond the direct reach of the one-man health officer, although it is possible and essential for him to stress these subjects in an educational way from every possible angle.

The foundation of all rural health work, of course, must be education. In the large cities methods of compulsion may be tolerated, but not so in county work. It does not come within the province of this article, however, to discuss the various aspects which educational work may assume. No method or practice which will accomplish the desired end can be disregarded.

A characteristic mistake in trying to develop county health work is to attempt to get results by an overabundance of new rules and laws, on the theory that, even if only 10 per cent of the laws are enforced, more will be accomplished with many laws than with few. This practice tends rather to disorganize than to develop health work. Good health legislation should be such that its effect should be its own recommendation. No laws should be passed except those capable of from 90 to 100 per cent enforcement with the machinery the health officer has at hand. A few reasonable laws which can be made to mean just what they say will inculcate in the people the habit of observing health laws. These will then serve as a nucleus around which other laws may be developed.

When an engineer lays out a drainage system he so executes the plans that the smallest branches bear a definite relation to the main collecting channel. In the scheme of health administration we find a close parallel, in which the county organization represents the smallest branches or indivisible units and the state and federal organizations, respectively, the larger ones. Each has its own separate functions to perform, but can not operate successfully independently of the others. While this fact is so simple that its statement seems a mere platitude, a glaring disregard of it is sometimes seen.

When the turmoil of war subsides, we may confidently look for a great impetus to internal development in this country. Unquestionably, health matters will receive greater recognition than ever before. We may therefore conceive of the time, not far distant, when funds may be available for a co-operative health program in which county, state, and federal governments will all share. Such a scheme would necessarily bring about a close co-ordination of policy in the different units and wipe out all barriers to interdependent co-operation now existing. But whether this plan is ever realized or not, the wise health officer, in developing the work of a county, will go about his task with the idea that the health forces of our country constitute an organic whole, of which the county organization is an inseparable unit.

JULY MEETING OF THE CALIFORNIA STATE BOARD OF HEALTH.

The State Board of Health met in Sacramento on July 6, 1918. The members present were: Dr. George E. Ebright, president; Dr. F. F. Gundrum, vice president; Dr. Edward F. Glaser, Dr. Adelaide Brown, and Dr. W. H. Kellogg, secretary.

Miss Anna C. Jammé, Director of the Bureau of Registration of Nurses, was granted a leave of absence during the period of the war in order that she might accept service under the War Department as Inspector of Military Training Schools for Nursing. Miss Jammé's action in entering upon this important government work was a very patriotic one, as her salary will be greatly reduced by the change. The Director of the Bureau of Registration of Nurses presented a list of 214 successful candidates in the examination for registration, which was approved by the board and to whom certificates will be issued. Miss Laura Grant was appointed Assistant to the Director of the Bureau of Registration of Nurses. The standard national curriculum for training schools for nurses, prepared by the National League of Nursing Education, was approved by the board for use in the training schools of California. Dr. Evans, president of Occidental College of Southern California, was present at the meeting, and upon his presentation of evidence to the effect that Occidental College conformed to the nurses' requirements, it was voted to recognize the inauguration in that college of a combined course leading to a degree of B. S., and graduating in nursing in a period of five years. This course will consist of two years of training in the Pasadena Hospital following a three-year regular collegiate course embracing certain required scientific work.

The report of the Director of the Bureau of Tuberculosis on the San Bernardino County Hospital was accepted as entitling that institution to the state subsidy for forty beds.

On the recommendation of the Director of the Bureau of Sanitary Engineering, temporary permits for the operation of swimming pools were granted to several applicants. Permit was also granted to the city of Calexico to continue to supply water to the inhabitants from the Imperial Valley canals, after filtration and treatment according to specifications by the bureau. Temporary permit was granted to the city of Colton to use existing water works, also to the Coronado Water Company to supply water to the city of Coronado, and to the Corona Water Company to supply water to the city of Corona. A large delegation of citizens and officials of Fresno and Kings counties appeared before the board to argue for and against the issuance of a permit for the disposal of waste from the canneries of the California Peach Growers' Association at Reedley and Kingsburg; also to the city of Kingsburg for the disposal of industrial waste into the Kings River. After due consideration both applications were granted upon certain restrictions formulated by the Bureau of Sanitary Engineering.

There was present the usual number of persons cited to appear before the board for violation of the Food and Drug Law, a full hearing being given in each case before decisions regarding future action was taken.

W. H. Kellogg, Secretary.

REPORT OF THE BUREAU OF ADMINISTRATION FOR JUNE, 1918.

W. H. KELLOGG, M.D., Secretary.

ACTIVITIES OF THE STATE DISTRICT HEALTH OFFICERS.

North Coast District.

ALLEN F. GILLIHAN, M.D., State District Health Officer, Santa Rosa.

During June Dr. Gillihan visited the following cities and towns: San Rafael, Mill Valley, Belvedere, Ukiah, Kelseyville, St. Helena, Benicia, and also the Bureau of Sanitary Engineering at Berkeley and the Supervisors of Sonoma County.

Northern District.

HAROLD F. GRAY, Gr.P.H., State District Health Officer, Chico.

The following places were visited by Mr. Gray during the month: Sacramento, Roseville, Auburn, Colfax, Grass Valley, Nevada City, Marysville, Smartsville, Browns Valley, Oroville, Vina, Redding, Red Bluff, Tehama, Corning, Orland, Willows, Colusa, Butte City, Folsom, Woodland, Biggs, and Placerville.

Central District.

RALPH W. NAUSS, M.D., State District Health Officer, Fresno, Cal.

Dr. Nauss visited the following cities in his district during the month: Sanger, Reedley, Dinuba, Kingsburg, Selma, Fowler, Visalia, Tulare, Hanford, Modesto, Stockton, Berkeley and San Francisco.

Central Coast District.

ROBERT N. HOYT, S.B., State District Health Officer, San Jose.

During June the following places were visited by Mr. Hoyt: Berkeley, Richmond, Rodeo, Oleum, San Leandro, Hayward, Princeton Beach, Santa Clara, Mountain View, Sunnyvale, Palo Alto, Camp Fremont, Cupertino, Martinez, Redwood City, and Menlo Park.

Southern District.

GAVIN J. TELFER, M.D., State District Health Officer, Riverside.

Dr. Telfer visited the following cities during the month: San Bernardino, Highlands, Patton, Perris, Nuevo, San Jacinto, Hemet and Colton.

South Coast District.

E. A. INGHAM, State District Health Officer, 210 Union League Building, Los Angeles.

During the month of June Mr. Ingham visited the following places: Riverside, Aviation Camp at Alessandro, Culver City, Palms, Venice, Santa Monica, Long Beach, San Pedro, Camp Kearny and San Diego, Chula Vista and Coronado.

MORBIDITY REPORTS.

Morbidity for June, 1918, by Weeks.

	Weeks ending—				Total, June, 1918	Total, June, 1917
	June 8	June 15	June 22	June 29		
Anthrax	1	------	2	------	3	------
Beri-Beri	------	------	------	------	0	------
Cerebrospinal meningitis	4	1	4	1	10	14
Chickenpox	115	130	100	52	397	336
Cholera, Asiatic	------	------	------	------	------	------
Dengue	------	------	------	------	------	------
Diphtheria	70	56	51	71	248	129
Dysentery	2	1	1	3	7	15
Erysipelas	11	9	7	8	35	36
German measles	85	71	35	33	224	168
Glanders	------	------	------	------	------	------
Gonococcus infection	119	70	105	97	391	151
Hookworm	1	------	------	------	1	------
Leprosy	2	------	------	------	2	1
Malaria	21	11	12	31	75	55
Measles	429	504	332	206	1,471	1,703
Mumps	155	159	123	77	514	669
Opthalmia neonatorum	------	------	------	------	------	3
Paratyphoid	------	------	------	------	------	------
Pellagra	------	2	------	------	2	------
Plague	------	------	------	------	------	------
Pneumonia	64	49	40	37	190	107
Poliomyelitis	1	2	2	1	6	3
Rabies	------	------	------	------	------	------
Rocky Mountain spotted fever	------	------	------	------	------	------
Scarlet fever	65	59	62	50	236	258
Smallpox	23	20	26	33	102	23
Syphilis	52	41	71	27	191	78
Tetanus	------	1	------	------	1	2
Trachoma	------	2	3	------	5	2
Trichinosis	------	------	------	------	------	------
Tuberculosis	169	140	131	182	622	457
Typhoid fever	27	18	32	27	104	82
Typhus fever	------	------	------	------	------	------
Whooping cough	139	126	106	101	472	264
Yellow fever	------	------	------	------	------	------
Totals	1,555	1,472	1,245	1,037	5,309	4,556

SANITARY INSPECTIONS.

EDWARD T. ROSS, Sanitary Inspector.

The first three weeks in June were spent in Los Angeles and Long Beach in mosquito abatement work and in supervising the clean-up of eating houses, fish canneries, etc., in the vicinity of government camps and shipbuilding yards. The territory involved covers an area about four miles square. A large portion of this area is marsh land and is overflowed by high tides, thereby creating mosquito-breeding places. With the co-operation of the Los Angeles and Long Beach authorities, also the owners of various canneries and the representative and inspectors of the National Canners' Association, a large amount of oiling and several miles of ditching was accomplished. As a result of this work the mosquitoes were practically exterminated and their breeding places thoroughly drained. With proper attention following high tides, there should be no reoccurrence of the mosquito nuisance.

All eating houses were reinspected and with one or two exceptions the owners have complied with the state laws and regulations. The owners of canneries in the majority of cases have also complied with the laws and regulations governing such places.

During the last week of the month mosquito surveys were made in the city of San Diego, also Camp Kearny and the extra Cantonment Zone. A general sanitary survey was made of restaurants, hotels, ice cream parlors, fruit stands, meat markets, groceries, etc., in San Diego, and arrangements were made with the city authorities for a detailed inspection of the city during the coming month.

Summary of Operations.

Mosquito surveys (Los Angeles, Long Beach, Seal Beach, San Diego, Camp Kearny)	5
Number food supply places in vicinity of government camps and shipbuilding yards inspected	90
Number of canneries in vicinity of government camps and shipbuilding yards inspected	23
Miscellaneous premises inspected	80
Reinspections made	260
Nuisances abated	377
Food supply places complied with state laws	51
Canneries complied with state laws	19
Facilities for sterilizing glasses, etc., installed	40
Metal screened or glass food containers installed	43
Doors and windows screened	400
New toilets installed	31
Toilets screened and made fly-tight	58
Metal garbage receptacles installed	60
Metal sings installed	52
Yards cleaned	57
Health conferences attended	6

REPORT OF THE BUREAU OF COMMUNICABLE DISEASES FOR JUNE, 1918.

Frank L. Kelly, M.D., Gr.P.H., Acting Director.

As the Bulletin contains the report for June, 1918, the last month of the twenty-fifth biennial period, a brief resume of the work of the bureau will not be out of place. During this period both the laboratory and the epidemiological work of the bureau has increased a great deal. There were 106 epidemiological investigations carried on by the bureau as compared to 73 during the twenty-fourth biennial period. Among these investigations were over 20 for typhoid fever and 10 for bacillary dysentery. More than 20 investigations of reported cases of poliomyelitis were made. The bureau instituted such effective control measures for typhus fever when it was introduced into the state in 1916 that it was completely stamped out. Other field investigations carried on include diphtheria, smallpox, anthrax, scarlet fever, trichinosis, leprosy. botulismus, yaws, tetanus, chickenpox, and Rocky Mountain spotted fever.

The following are comparisons of some of the laboratory examinations for the twenty-fourth and twenty-fifth biennial periods:

	Twenty-fourth period	Twenty-fifth period
Anthrax	144	297
Diphtheria	13,651	14,445
Gonococcus infection	747	1,442
Malaria	276	367
Rabies	603	263
Syphilis (Wassermann)	2,456	9,088
Tuberculosis	1,506	2,149
Typhoid (Widal)	1,927	2,229

From the above table it will be seen that the greatest increases have been in the examinations for gonococcus infection and the Wassermann test. While all of the other examinations, excepting rabies, show some increase, still the laboratory is reaching but a small proportion of the physicians in the state. With the assistance of the six state district health officers we hope to be able to greatly increase our work and to serve a larger part of the state than ever before.

Division of Biological Examinations.

Summary of Examinations Made in the California State Hygienic Laboratory During the Month of June, 1918.

Condition suspected	Positive	Negative	Inconclusive	Total
Main Laboratory at Berkeley—				
Anthrax		1		1
Diphtheria (diagnosis)	15	45	[1]2	662
Diphtheria (release)	11	28		39
Dysentery	1	3	1	5
Gonococcus infection	28	31	17	76
Malaria	1	8		9
Meningitis	1	2		3
Rabies	5	3		8
Syphilis (Wassermann test)	46	1,333	46	1,425
Tuberculosis (sputum examinations)	13	60	3	76
Typhoid (Widal test)	3	39	4	46
Typhoid (feces)		2	1	3
Miscellaneous				2
				1,755
Northern branch at Sacramento—				
Diphtheria (diagnosis)	5	17	[1]1	23
Diphtheria (release)		7		7
Malaria	2	9		11
Tuberculosis (sputum examinations)	2	12		14
Typhoid (Widal test)	2	11	3	16
				71
Southern branch at Los Angeles—				
Diphtheria (diagnosis)	16	75	[2]8	99
Diphtheria (release)	13	35	[1]1	49
Dysentery	1	1		2
Gonococcus infection	20	16	5	41
Meningitis				
Rabies	1	1		2
Tuberculosis	4	11		15
Paratyphoid		8		8
Typhoid (feces)		3		3
Typhoid (Widal test)	17	35	7	59
Water examinations				105
Miscellaneous				1
				384
Total number of examinations				2,210

[1] No growth.

[2] Four no growth.

Division of Epidemiological Investigations.

Epidemiological Investigations and Other Special Investigations During the Month of June, 1918.

Main laboratory at Berkeley—

An investigation of smallpox in Oakland.

An investigation of a case of leprosy in Fresno.

Division of Preventive Therapeutics.

Pasteur Treatment for the Prevention of Rabies by the State Hygienic Laboratory During the Month of June, 1918.

	Treatment commenced	Treatment completed
Main laboratory at Berkeley	1	0
Northern branch at Sacramento	1	1
Southern branch at Los Angeles	0	0
Laboratory of Sacramento Board of Health, by deputized bacteriologist	0	0
Laboratory of San Francisco Board of Health, by deputized bacteriologist	0	0
Laboratory of Los Angeles Board of Health, by deputized bacteriologist	0	0
Laboratory of San Diego City Board of Health, by deputized bacteriologist	0	0
Laboratory of Letterman General Hospital, Presidio, by deputized bacteriologist	0	0
Laboratory of United States Naval Hospital, Mare Island, by deputized bacteriologist	0	1
	2	2

Vaccine for the Prevention of Typhoid Fever Issued by the State Hygienic Laboratory During the Month of June, 1918.

Number of physicians to whom vaccine was sent	9
Number of complete treatments sent	139

Ophthalmia Neonatorum Prophylactic Outfits Distributed During the Month of June, 1918.

Number of outfits, containing two ampoules each, issued	181

Public Health Iinstruction.

Participation in Instruction in Public Health During June, 1918.

Main laboratory at Berkeley—	
Bacteriological instruction outfits sent out	0
Bacteriological instruction outfits in use	21

DIVISION OF PARASITOLOGY.

WILLIAM W. CORT, Ph.D., Consulting Helminthologist.

The report for the month of June shows an increasing number of miscellaneous examinations made for physicians of the state. The Division of Parasitology is glad to have the physicians take advantage of its facilities for fæcal diagnosis, and hopes that the number of such calls will constantly increase.

Two very obstinate cases of hookworm infection have come to our attention in connection with the treatments. One of these cases was found by re-examination to be cured after the third treatment, while the other is still infected after the fourth treatment. The past history of these men shows that the infections are probably of long standing. The hookworms are undoubtedly imbedded in the intestinal lining and therefore difficult to reach. Both of these cases show severe intestinal symptoms.

Summary of Examinations Made in the Laboratory of Parasitology of the State Board of Health During the Month of June.

	Positive	Negative	Inconclusive	Total
Hookworm in mines	2	78	0	80
Reexaminations after treatment for hookworm	2	4	0	6
Miscellaneous examinations for intestinal worms	0	10	0	10
Total examinations	4	92	0	96

REPORT OF THE BUREAU OF TUBERCULOSIS FOR JUNE, 1918.

E. L. M. TATE-THOMPSON, Director.

The past month has been filled working with the groups of counties that are planning joint hospitals. Many trips for the inspection of sites have been made. It is not an easy matter to find a suitable site for an institution within a single county, and when the transportation problem is added to the cost of maintenance, one does not decide hastily where the expenditure of money for several counties is involved. Yet, once these institutions are completed, no one can reckon on the ultimate good. Because of these joint county institutions, returning soldiers and their families need not face a separation of magnificent distances while trying to recover. Reconstruction in California does not spell despair; already occupational therapy is being included in the general scheme. Graduated work will give a man a chance to face the world, often with a better equipment than he had before.

Our rejected drafted men number 1,763; the total California men discharged from various camps, 1,409; men discharged in California from other states, 1,060, making a total of 4,232 registered in the bureau.

Rural nurses have been invaluable, as have all of the nurses. Over 500 men have been visited in Los Angeles, and the Los Angeles Society for the Study and Prevention of Tuberculosis has given advice to nearly 800 men. None of these men need to make a failure of life. Six months of rest, under proper conditions in a sanatorium, ought to return a large percentage of them to their old lines of work, considering it is the proper sort. The reconstruction of the tuberculous is not by any means the hardest part of the reconstruction plan.

Col. George Bushnell, who is in charge of the tuberculosis division in the Surgeon General's office, states that the army now has at various points 5,875 beds for use of soldiers suffering with tuberculosis. Many of these beds at present must be in private sanatoria, though at present four large sanatoria are being built.

So many men from Los Angeles County have been rejected and discharged that a special field worker was appointed to cover the work there. Seven hundred and seventeen names were sent to her, and 545 calls were made; 783 rejected men were located; 152 discharged men were found; 101 could not be found; 37 of these men were working with foodstuffs, and out of the 335 located only 62 were able to care for themselves. Much information and valuable instructions were given, not only to the men, but to their families. As this is written, the names of 145 men about to be discharged from Camp Kearny have been sent in.

A number of visits were made to Santa Barbara, in connection with the building of their new hospital.

A meeting was held early in the month with the supervisors of Humboldt, Mendocino, Napa, Lake and Sonoma counties, and another meeting held with the supervisors of Merced, Madera, Mariposa and Stanislaus counties.

Sites were also inspected for San Francisco's outside sanatorium.

A convalescent camp is badly needed in northern California for the group of men who are not hospital cases.

Perhaps the most interesting and hopeful of all the work that is being done locally is the starting of the Preventorium at Devil's Gate by the Los Angeles and Pasadena tuberculosis societies.

The camp near Santa Cruz for Alameda County's children and the establishment near Bowman (Placer County) of Sacramento's camp, were all maintained by the local tuberculosis societies.

France, in spite of war conditions, finds time to specialize on children, and by the time we count the added tuberculosis soldier to our population, we, too, may find time to make the most and best of Young America before it is too late.

Hospitals suspended:

San Francisco.
Santa Barbara.

Sites visited in Sonoma, Merced, San Francisco, Santa Barbara and Mariposa counties.

REPORT OF THE BUREAU OF SOCIAL HYGIENE FOR JUNE, 1918.

Lewis Michelson, M.D., Director.

The new notification cards for venereal diseases have been out but a short time and the great number of requests and queries show an intense interest from most physicians. The value of reporting these cases lies not only in the statistical results, but in stimulating the physician's knowledge of these diseases. In line of the publicity side, the bureau has had printed six pamphlets bearing on sex hygiene. These can be obtained upon request from the bureau. The following are the titles:

"The Four Sex Lies"; "When and How to Tell Children"; "A Plain Talk With Girls About Their Health and Physical Development"; "The Secret of Strength" (for the proper instruction of boys); "Virility and Physical Development (boys of adolescent period); "Physical Development, Marriage and Motherhood."

The pamphlet of instructions to patients suffering with syphilis and gonorrhœa has been translated into Spanish. Translations in Italian and Greek will shortly be issued.

The motion picture "Fit to Fight," a four-reel feature prepared under the direction of the Surgeon General of the Army, has been purchased for educational purposes. It has received the approval of the Assistant Secretary of the War, and Raymond B. Fosdick, chairman of the Commission on Training Camp Activities. Major W. F. Snow, M. R. C., in charge of the section on combating venereal diseases of the Surgeon General's office, supervised the preparation of the film. The film portrays the various phases of venereal disease in a most interesting and instructive manner. The film will be shown throughout the state as an educational feature, either alone or in conjunction with other exhibits. The bureau will be glad to hear from communities desiring this film.

The campaign to interest industrial concerns has been begun in conjunction with the Social Hygiene Division of the Commission on Training Camp Activities of the War Department. It is planned to stimulate the formation of clinics in these industries and also to educate the employees along social hygiene lines. The Sperry Flour Company, Bishop & Company of Los Angeles, the Hercules Powder Company of Pinole, and the Noble Electric Steel Company are the principal large manufacturers already interested.

The California Pharmaceutical Association was addressed by the director at their annual meeting in San Diego on July 9, 1918. At this meeting a special committee was organized to co-operate with the bureau in the campaign against venereal diseases. This committee is to work out particularly the problem as regards counter-prescribing sale of venereal disease remedies and the advertising of venereal nostrums. At this meeting the bill introduced by Congressman Kahn in the House of Representatives, appropriating $2,500,000 to social hygiene work, was endorsed. The California Dental Association, at their annual convention in San Francisco on July 12, 1918, endorsed the policy of the Bureau of Social Hygiene as well as the social hygiene bill of Congressman Kahn.

At a joint meeting of the Mayor, Board of Supervisors and the City Commissioners of Stockton on July 8, 1918, at which were also present representatives of the Red Cross, the Women's League for Home Service, City Health Officer, the Commissioner of Public Health and Safety, and the Director of the Bureau of Social Hygiene, a committee was formed from the city and county officials to arrange to obtain the necessary funds for a general clinic.

Arsenobenzol Distributed by the Bureau During June, 1918.

San Francisco Health Department	115
Los Angeles County Hospital	75
Kern County Health Officer	50
Los Angeles City Health Department	25
San Jose Health Department	30
University of California Hospital	20
San Bernardino County Hospital	12
Stanislaus County Hospital	3
Shasta County Hospital	3
	333

Treatment Reports Received.

134 patients received one dose	134
29 patients received two doses	58
17 patients received three doses	51
1 patient received four doses	4
1 patient received six doses	6
182	253

Laborers	56
Other occupations	54
Housewives	37
No occupations	21
School children	11
Prostitutes	3
	182

Females	96
Males	86
	182

Patients Treated.

Los Angeles County Hospital	70
Los Feliz Hospital	20
Mission Valley Hospital	15
Temple Block Clinic	13
Fresno County Hospital	11
San Diego County Hospital	8
University of California Hospital	8
Juvenile Hall, Los Angeles	7
San Bernardino County Hospital	5
Stanford University Medical College	6
Los Angeles East Side Jail	4
Shasta County Hospital	3
Sacramento County Hospital	3
Kern County Hospital	2
Cottage Hospital	2
Potrero Emergency, San Francisco	1
Stanislaus County Hospital	1
Los Angeles County Hospital	1
Los Angeles City Venereal Clinic	1
Redwood City Detention Home	1
	182

Total Number of Arsenobenzol Ampoules Distributed, 2,956.

Total number of treatment cards received	1,833
Total number of treatment cards distributed and not returned	1,123
	2,956

REPORT OF THE BUREAU OF VITAL STATISTICS.

George D. Leslie, Director.

Births and Deaths by Months.

The following table shows for California as a whole the distribution of births and deaths by month of occurrence for both 1917 and 1916, as well as the annual rates duly adjusted according to the number of days in each month. The estimated state population was 3,037,968 for 1917 and 2,946,347 for 1916.

Month of occurrence	Births		Deaths		Rate per 100,000 population			
					Births		Deaths	
	1917	1916	1917	1916	1917	1916	1917	1916
State total	52,230	50,638	42,084	39,860	17.2	17.2	13.9	13.5
January	4,328	4,268	4,361	4,171	16.8	17.0	16.9	16.7
February	3,995	3,995	3,669	3,176	17.1	17.6	15.7	14.0
March	4,504	4,174	3,754	3,343	17.5	16.7	14.5	13.4
April	4,344	4,068	3,530	3,167	17.4	16.8	14.1	13.1
May	4,295	4,081	3,347	3,299	16.6	16.3	13.0	13.2
June	4,249	4,092	3,517	3,076	17.0	16.9	14.1	12.7
July	4,560	4,411	3,301	3,134	17.7	17.6	12.8	12.5
August	4,403	4,334	2,975	2,948	17.1	17.3	11.5	11.8
September	4,338	4,140	3,081	2,864	17.4	17.1	12.3	11.8
October	4,466	4,187	3,227	3,014	17.3	16.7	12.5	12.0
November	4,214	4,243	3,413	3,476	16.9	17.5	13.7	14.4
December	4,534	4,645	3,909	4,192	17.6	18.6	15.1	16.7

This table shows that the birth rate ranged from the minimum for May, 16.6 in 1917 and 16.3 in 1916, to high points for July, 17.7 and 17.6, and for December, 17.6 and 18.6, respectively. From the figures for the two years it appears that the periods of relatively high birth rates include February to April and also July to September.

The death rate ranged from the minimum for August, 11.5 in 1917 and 11.8 in 1916, to the maximum for January, 16.9 and 16.7, respectively. The period of high death rates in December to February is followed by steady decreases month after month to the period of minimum mortality in July to October.

Further analysis of the table shows that while birth and death totals were not far from the same for January each year yet that births exceeded deaths greatly in the other eleven months both years. The relatively low mortality in July to October with comparatively high birth rates in the same period accounts for the marked excess of births over deaths in these four months. In 1917 and 1916, respectively, the relative excess of births over deaths was as follows: July, 38.1 and 40.7 per cent; October, 38.4 and 38.9; September, 40.8 and 44.6; and August, 48.0 and 47.0. Thus in August each year births surpassed deaths by about one-half.

Births, Deaths and Marriages for May.*

State, Totals and Annual Rates. The following table shows for California as a whole, the birth, death and marriage totals for the current month of the year to date in comparison with corresponding figures for last year, as well as the annual rates per 1,000 population represented by the totals for the current month and the year to date. The rates are based on an estimated midyear population of 3,129,584 for California in 1918, the estimate having been made by the United States Census Bureau method with slight modifications.

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*The present report is for the month preceding but two. This order must be followed because of the publication of the Bulletin during the early part of the month, before the tabulation of records for the next preceding month is completed.

Birth, Death and Marriage Totals, with Annual Rate per 1,000 Population, for Current Month and Year to Date, for California: May.

Month or period	Total		Annual rate per 1,000 population, 1918
	1918	1917	
May—			
Births	4,739	4,150	17.8
Deaths	3,656	3,333	13.7
Marriages	2,525	3,170	9.5
January to May—			
Births	22,242	20,408	17.2
Deaths	18,739	18,154	14.5
Marriages	12,490	14,252	9.6

The figures for May, 1918, show an increase of 589 births over May, 1917; also an increase of 323 deaths; but a decrease of 645 marriages.

There is likewise shown a gain in births for the first five months of 1918 over the same period for 1917 of 1,834 events; an increase in the death total of 585; and a decrease in the marriage total of 1,762.

Length of Residence. The length of residence in California for the 3,656 decedents in May was as follows: Under 1 year, 260, or 7.1 per cent; 1 to 9 years, 618, or 16.9 per cent; 10 years and over, 1,643, or 44.9 per cent; life, 996, or 27.3 per cent; and unknown, 139, or 3.8 per cent.

For residents of the 70 cities of 2,500 population in 1910, there were 105 births and 133 deaths which occurred in registration districts other than the city of residence.

County Marriage Totals. The counties showing the highest marriage totals for the month were as follows: Los Angeles, 504; San Francisco, 485; Alameda, 229; San Diego, 193; Orange, 107; Sacramento, 104; Santa Clara, 88; Fresno, 74; San Bernardino, 68; San Joaquin, 65; San Mateo, 50; Riverside, 49; Marin, 46; Kern, 32; Imperial, 27; and Sonoma 27. The aggregate for Los Angeles and Orange counties together is 611, against 824 for San Francisco and other bay counties.

County Birth and Death Totals. Exclusive of stillbirths in both cases, the birth and death totals for the month were as follows for the leading counties, arranged in decreasing order of birth registration:

County	Births	Deaths	County	Births	Deaths
Los Angeles	1,146	974	San Bernardino	125	95
San Francisco	688	621	Tulare	99	45
Alameda	473	303	Kern	97	51
Fresno	242	115	Orange	88	58
San Diego	180	152	Imperial	80	29
Santa Clara	161	152	Santa Barbara	77	35
Sacramento	143	137	Humboldt	75	27
San Joaquin	132	113	Riverside	72	57

City Birth and Death Totals. Birth and death totals, exclusive of stillbirths, are presented similarly for the principal California cities below:

City	Births	Deaths	City	Births	Deaths
Los Angeles	717	631	Pasadena	70	51
San Francisco	688	------------	Berkeley	67	38
Oakland	317	187	Bakersfield	60	36
San Diego	146	------------	Long Beach	51	42
Sacramento	105	------------	San Bernardino	42	29
Fresno	94	45	Santa Barbara	39	24
San Jose	76	------------	Alameda	36	20
Stockton	74	------------	Riverside	34	29

Causes of Death. The following table shows the classification of deaths in California for the current month, in comparison with the preceding month:

Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths for Current and Preceding Month, for California: May.

Cause of death	Deaths. May	Proportion per 1.000	
		May	April
All causes	3,656	1,000.0	1,000.0
Typhoid fever	17	4.6	3.9
Malarial fever	6	1.6	0.5
Measles	20	5.5	7.5
Scarlet fever	4	1.1	2.8
Whooping cough	43	11.8	6.5
Diphtheria and croup	19	5.2	4.7
Influenza	20	5.5	6.7
Other epidemic diseases	11	3.0	2.3
Tuberculosis of lungs	434	118.7	130.7
Tuberculosis of other organs	75	20.5	17.0
Syphilis and gonorrhea	34	9.3	7.2
Cancer	260	71.1	70.5
Other general diseases	128	35.0	35.4
Meningitis	19	5.2	9.6
Other diseases of nervous system	376	102.7	85.8
Diseases of circulatory system	542	148.2	147.0
Pneumonia and broncho-pneumonia	304	83.2	113.9
Other diseases of respiratory system	88	24.1	26.1
Diarrhea and enteritis, under 2 years	72	19.7	17.6
Diarrhea and enteritis, 2 years and over	24	6.6	7.0
Other diseases of digestive system	226	61.8	53.7
Bright's disease and nephritis	315	86.2	81.9
Childbirth	46	12.6	7.2
Diseases of early infancy	109	29.8	38.5
Suicide	69	18.9	17.3
Other violence	270	73.9	63.0
All other causes	125	34.2	35.7

In May there were 542 deaths, or 14.8 per cent of all, from diseases of the circulatory system; and 509, or 13.9 per cent, from the various forms of tuberculosis. The greatest number of deaths were due to heart disease. Other notable causes of deaths for the month were as follows: Diseases of the nervous system, 395; diseases of the respiratory system (includes pneumonia), 392; violence (suicides, accidents, etc.), 339; Bright's disease and nephritis, 315; and epidemic diseases, 140.

The deaths from the three leading epidemic diseases reported for the month were distributed by counties as follows:

Whooping cough		Measles		Influenza		Diphtheria and croup	
Alameda	7	Butte	1	Alameda	2	Alameda	3
Butte	1	Contra Costa	2	Butte	1	Fresno	2
Contra Costa	1	Fresno	1	Fresno	1	Los Angeles	4
Fresno	1	Kings	1	Humboldt	3	Napa	1
Imperial	3	Los Angeles	6	Los Angeles	2	Sacramento	1
Kern	3	Monterey	1	Nevada	1	San Benito	1
Kings	1	Riverside	1	Orange	1	San Diego	1
Los Angeles	9	Sacramento	2	Sacramento	1	San Francisco	5
Napa	1	San Bernardino	1	San Diego	5	Tulare	1
San Bernardino	1	San Diego	1	San Luis Obispo	1		
San Diego	2	San Francisco	1	Shasta	1		
San Francisco	5	San Mateo	1	Siskiyou	1		
San Joaquin	3	Santa Barbara	1				
San Mateo	1	Sutter	1				
Santa Clara	1	Tulare	1				
Tulare	2						
Ventura	1						
	43		22		20		19

Sex, Race and Nativity. The proportion of the sexes among the 3,656 decedents in May was: Male, 2,171, or 59.4 per cent; and female, 1,485, or 40.6 per cent.

The race distribution of decedents was: White, 3,420, or 93.5 per cent; Japanese, 93; Chinese, 73; Negro, 54; and Indian, 16.

The 3,420 white decedents were classified by nativity as follows: California, 912, or 26.7 per cent; other states, 1,405, or 41.1 per cent; foreign born, 1,034, or 30.2 per cent, and unknown, 69, or 2.0 per cent.

Infant Mortality. There were 337 deaths for children under 1 year, which were distributed by age in months as follows: Under 1 month, 143, or 42.4 per cent; 1 to 2 months, 66, or 19.6 per cent; 3 to 5 months, 58, or 17.2 per cent; and 6 to 11 months, 70, or 20.8 per cent.

In certain cities the deaths under 1 year were as follows: Los Angeles city, 56; San Francisco, 37; and Oakland, 13.

The 337 deaths under 1 year in comparison with the 4,739 live births reported for the month show an infant mortality ratio of 71 per 1,000 births.

REPORT OF THE BUREAU OF SANITARY ENGINEERING FOR JUNE, 1918.

By C. G. Gillespie, C.E., Director.

A Danger of Water Shortage.

The effects of scanty rainfall during the past winter are already making themselves felt on the water supplies of several California cities and towns, and of rural homes as well. Actual scarcity of drinking water at this moment is widely threatened and it is likely that unused supplies, which would not be considered in normal times, will soon be drawn upon. To meet a water famine often requires quick decision and heroic measures, but be that as it may, there need be no long chances taken with the health of the consumers by the use of a source of suspicious quality, though it be but temporary. In an emergency a barrel can be set up, bleaching powder solution made up and the supply disinfected within 30 minutes. Health officers and water superintendents should now be laying their plans for meeting a possible water shortage in their communities and give due thought to disinfection. The bureau stands ready to assist in working out the details.

SEWAGE DISPOSAL.

Applications for Permits Filed.

Chino. To operate the present sewer system and Imhoff sewage treatment plant.

Kingsburg. To construct and operate an Imhoff tank, sprinkling filter and final settling tank, discharging on sand bar on site adjoining Kings River in Tulare County, to be used in place of existing sewer farm.

Kingsburg. To extend the existing industrial sewer pipe line within the city of Kingsburg to serve the California Peach Growers, Inc., in addition to serving the Kingsburg Cannery now on said line, and the Kingsburg Winery now served through the Kingsburg sanitary sewer, and to extend said industrial sewer line from the existing sewer farm to a site adjoining Kings River in Tulare County, so as to discharge on a sand bar on said site.

Manteca, Mrs. B. M. Carlon. To put down and operate a sewer well.

Reedley and Kingsburg, California Peach Growers, Inc. To turn into Kings River, at Reedley and Kingsburg, through underground piping, the waste water from their packing houses, the water being that in which dried peaches are washed and cleansed previous to being packed. The water will contain the fuzz and skin from the dried peaches.

Santa Paula. To continue to use the present septic tank which empties into a dry sand wash of Santa Clara River.

Orland. To operate existing sewer system, septic tank and sewer farm.

Ben Lomond, Mr. Herman Rueff. To discharge waste from the Ben Lomond Laundry into San Lorenzo River.

Newport Beach. To construct sewer system and Imhoff tank and discharge effluent into tidal water at mouth of Santa Ana River.

Permits Granted.

Kingsburg. To dispose of the discharge of its proposed industrial sewer into the Kings River at a point as designated by the city, on the following conditions:

1. The sewage shall be previously treated by tanks, screens, drain beds, etc., as is practicable, to remove floating, settleable or suspended visible solids therefrom, on demand of the State Board of Health.
2. The amount and character of sewage shall be limited to prevent the creation of nuisance in the Kings River.
3. No sanitary sewage shall be permitted to discharge into said industrial sewer.
4. No industrial connections with said sewer shall be made without the consent of the State Board of Health.
5. This permit shall be revocable on violation of any of the above provisions.

Kingsburg. To dispose of household or sanitary sewage into the Kings River at a point as designated by the city, on the following conditions:

1. The sewage shall be previously treated in a plant consisting of (*a*) Imhoff tank; (*b*) sprinkling filter and appurtenances; (*c*) final settling tank, all to be constructed in accordance with plans submitted by City Engineer John S. Bates.
2. Disposal shall be onto the sand bar, designated on the said plans, at times when the river stage permits.
3. Disposal may be direct into the Kings River without other treatment than that listed above, at high-water stage or when the dilution is adequate to prevent a substantial increase in the river water by said sewage.
4. If the disposal results in a substantial contamination of the river water the city of Kingsburg shall, in addition to the aforementioned treatment, apply proper disinfectants to the sewage.
5. Nuisance shall not result in the river or in the vicinity of the plant or sand bar.
6. The city of Kingsburg shall endeavor to improve and make permanent the existence of said sand bar by proper protection work.
7. The works shall be kept under dependable management, as approved by the State Board of Health.
8. Weekly or monthly report and the submission of samples shall be made to the State Board of Health, in accordance with subsequent instructions.
9. No part of the plant shall be by-passed without the previous approval of the State Board of Health.
10. No deviation shall be made in the plans as approved without the consent of the State Board of Health.
11. This permit shall be revocable on violation of any of the above conditions.

Reedley and Kingsburg, California Peach Growers. To discharge the liquid wastes of their plants at Reedley and Kingsburg into the Kings River, on the following conditions:

1. The exact point of outfall shall meet with the approval of this bureau.
2. The outfall shall discharge under water at low stage in the river.
3. This permit is contingent on the prevention of nuisance in Kings River or adjacent territory.
4. No addition in size of plan or modification in points of outfall approved shall be made without the specific approval of the State Board of Health.

Manteca, Mrs. Bertha M. Carlon. To construct and use a sewer well for a period of six months, this permit being granted on the expectation that the city of Manteca will at once put in a sewer system with which Mrs. Carlon will connect her premises.

Plans Filed.

Kingsburg. Plans of Imhoff tank and sprinkling filter installation.

Newport Beach. Plans for sewer system and Imhoff tank.

Watts. Plans for sewer system and septic tank.

Los Alamitos, Los Alamitos Sugar Company. Plans of Imhoff tank.

Investigations, Inspections, Reports and Conferences.

Los Alamitos. June 24. The sugar company here is installing a small sewer system to serve a few cottages and a club house built for its employees. An Imhoff tank has been designed, and it was proposed to dispose of effluent by pumping it into a pipe line which carries the factory waste to a ranch, where it is used for irrigation. Investigation indicated that the tank was unnecessary and the company engineer was advised to omit it.

Ontario. June 20. Discharge of large amount of caustic waste from canneries is said to have damaged crops on sewer farm, and the lessee of the farm has asked that this waste be excluded from the sewers. Of the 200,000 gallons daily of cannery waste, it is estimated that about 12,000 gallons is objectionably caustic. It has been suggested that this be separately disposed of at the plants by spreading on land.

Engels Mine, Plumas County, Engels Copper Mining Company. June 17. This enterprising company is about to install complete sewerage for its new townsite, accommodating some 1,000 persons. The bureau was consulted in respect to disposal. Investigation reveals that there is an excellent opportunity to put in sprinkling filters and discharge the effluent into the mine tailings ditch which empties into settling reservoirs, prior to disposal into a branch of the Feather River, and this general scheme was advised.

Alturas. June 19. The city has been considering sewerage for many years. At present privies and cesspools are used. The topography is peculiar in that the town is built on the delta bank of the Upper Pitt River and the natural drainage is away from the river. The most likely project is to follow the natural topography and carry the sewage by gravity in a circuitous route to a point on the river about two miles from the city, where an Imhoff tank can be built for treatment prior to disposal into Pitt River. At this point, and for some 60 miles, the Pitt River is a sluggish slough, and such clarified effluent can be safely disposed therein.

Weed, Weed Lumber Company. June 20. The company has recently installed sewers according to plans approved by the State Board of Health in 1914, and now desires advice on the disposal of the effluent. Drainage is toward Shasta River, a tributary of the Klamath. The soil is loose and friable. Land disposal, using Imhoff tanks, siphon chamber and beds used intermittently, was advised.

Sisson. June 20. The city has sewers leading to a septic tank, thence via ditches to creeks tributary to the Sacramento River, three miles away in the heart of a vacation region. The effect of the sewerage into the river will be observed by repeated sampling of the stream during the next few months.

Represa, State Prison at Folsom. June 24 and 25. Reinspection of activated sludge tank. Disposal of sludge into trenches proved a source of great nuisance. One of the sledge drainage beds was therefore equipped to handle the next charge of sludge. The scheme of aeration of the sludge prior to ultimate disposal is to run the sludge from the sedimentation tanks in one of the sludge aerating tanks for a considerable period, with the air turned off. This allows it to concentrate in the sludge tank. The stream of sludge is then turned into another sludge aerating basin and activated prior to mixing with the sewage. The air is turned on the first sludge tank and the charge aerated for several hours without running any sludge in or out, the purpose being to reduce the per cent of sludge in the aerating basins and to thicken and thoroughly aerate the sludge prior to disposal on the drainage bed. The charge of sludge will probably be disposed of in the month of July. Clarification and bacterial condition of the effluent are satisfactory.

Oroville. June 7. Sewage is passed through a septic tank and disposed of on the bottom land of the Feather River. On the date of inspection gross pollution of the river was resulting. Analysis of the river nine miles below Oroville showed one *B. coli* per c.c. Additional river sampling will be carried on.

Oroville, Butte County Hospital. June 7. Sewage is treated in a novel septic tank known as the Belfranci International Sewage Treatment Plant, devised by a local resident. The plant consists of six upright cells, made of terra cotta, 30 inches in diameter and 6 feet long, and connected in a series so that sewage runs from one to the other through inverted siphons with legs terminating about three feet below the surface. Each cell has a sludge release in the bottom. The effluent flows through pasture land in an open ditch. Nuisance is complained of and milch cows are pastured on the land. It was recommended that the use of the ditch be discontinued and that milch cows be not pastured on this land and that proper sludge beds be built to drain and dry the sludge.

Folsom. June 4. Reinspection to observe whether the sanitary district trustees had acted on recommendations for the improved operation of the sprinkling filter. Apparently nothing has been done.

Bay Point. June 4. This unincorporated community of about 1,000 is completely sewered. The sewage flows into a canal that enters into Suisun Bay.

Oakdale. June 12. The city is completely sewered. The outfall sewer drains into the Stanislaus River at a point about half a mile northwest from the city limits. There is no treatment of the sewage.

Modesto. June 14. Sewage is treated in a four-compartment septic tank. The effluent is pumped into pipes and ditches and is used to irrigate a sewer farm on which alfalfa is grown. At the time of the inspection the pump was out of order and the effluent of the tank was flowing directly to the Tuolumne River.

Tracy. June 15. A reinspection was made of the sewer farm. As before, the septic tank was badly in need of cleaning. No care is taken of the farm and the effluent of the tank was all going to one spot, where evidently it is gradually absorbed by the soil. At the time of inspection, milch cows were grazing near this spot.

Manteca. June 14. Another inspection was made of the deep sewer wells in this town. Three of the wells were overflowing and causing a nuisance. The town has recently been incorporated and the question of a sewerage system will soon be taken up.

Pleasanton. June 19. Sewage is treated in a two-section septic tank. From this tank the effluent flows through a small chamber, where it is chlorinated. This is done to lessen the danger of contamination of the well supply of the Spring Valley Water Company. Final disposal is upon a 13-acre field. At time of inspection milch cows were grazing in this field.

WATER SUPPLIES.

Applications for Permits Filed.

Mountain View. To maintain and operate the existing system of municipal waterworks and make necessary extensions thereto. Source of supply, wells.

Permits Granted.

Corona, Corona City Water Works. To continue to supply water to the inhabitants of Corona from Cold Water Canyon and from wells in Temescal Basin.

Colton. A temporary permit to supply water from existing wells pending further investigation.

Calexico. A permit to continue to supply from the Imperial Valley canals after being purified by sedimentation, filtration and chlorination on condition that:

1. The supply as delivered shall be maintained safe and clear.
2. No modifications or additions to works or any source of supply shall be undertaken without the approval of the State Board of Health.
3. Chlorination shall not be discontinued, except on approval of the State Board of Health.

Coronado, Coronado Water Company. A permit to continue to supply water to the city of Coronado from the wells in Otay Valley, as now operated by the company; also, for emergency use, to supply water from the San Diego City system so long as the city of San Diego holds an unrevoked water supply permit from the California State Board of Health.

Plans Filed—None.

Investigations, Inspections, Reports and Conferences.

Riverside. June 19. The supply normally is derived from 36 flowing wells ranging from 200 to 900 feet deep, situated east and southeast of San Bernardino. Water probably of good quality. During recent repair work on the delivery pipe a supply of contaminated water from wells in Santa Ana River was inadvertently pumped into the distribution system. About two days later an epidemic of bowel disorders, affecting about three-fourths of the population, broke out in Riverside.

This water became contaminated by a sudden rise in the river which flooded the wells. The flood receded in a day or two and the sickness stopped at once. Since then the regular city supply has been again turned into the mains.

Vallejo. June 3. A conference was held with Mr. Kilkenny, city engineer. A chlorinator had been purchased, but had not been installed. This chlorinator will be installed at the Fleming Hill reservoir to chlorinate all water entering the reservoir. Two wells in Green Valley had been finished and pumps were being installed and another was being bored. The authorities at Mare Island have taken over a line of wells lower down the valley and will pump the water from these wells into the Vallejo main. When the chlorinator is installed water will again be pumped from Green Valley Creek into the line to Fleming Hill.

Benicia, Benicia Water Company. June 4. Arrangements were made to have a weekly record of operation of the chlorinator sent to this bureau.

Pittsburg, Black Diamond Water Company. June 4 and 11. Another inspection of this plant was made. The supply is obtained from the San Joaquin River, is filtered and chlorinated. At the first visit it was found that the diaphragm below the tank pressure gauge had blown out and that the chlorinator was not in use while waiting for a new diaphragm, which had been ordered. It was suggested that a plug be put into the nipple to which gauge is attached. On the second visit it was found this had been done the day after the first visit. Samples taken at the time of the first visit showed gross contamination, while those at the second only slight contamination. While the chlorinator was not in use, numerous cases of dysentery were reported to the health officer, but upon being put into use again these cases disappeared. Arrangements were made to have a weekly report of operation of the plant sent to this bureau.

Bay Point, Bay Point Water Company. June 4. This supply is obtained from four bored wells located near the State Highway to Concord. It is pumped directly into the mains, the surplus going to a 600,000-gallon equalizing reservoir. This water is free from contamination and is moderately hard.

Antioch. June 4 and 11. Reinspection of the municipal supply was made. It is obtained from the San Joaquin River, but is filtered and chlorinated before delivery to consumers. The plant was operating as usual. Arrangements were made to have a weekly report of operation sent to this bureau.

Santa Rosa. June 5 and 6. Another reinspection was made of the MacDonald system. Water is obtained from South Santa Rosa Creek, a contaminated supply. The chlorinator has not been in use for some weeks, due to the need of a general overhauling of the apparatus. At the time of inspection it had been returned, but owing to some trouble in the valve to the chlorine tank, it had not been set up. The pipe line from the creek to the reservoir was followed from one end to the other. The only chance for contamination to enter this line was where the water is allowed to flow through an open ditch for about two hundred feet. An inspection was made of the places on the watershed of Santa Rosa Creek that are responsible for some of the contamination. Since the last inspection, Mr. Wymore has installed a can in his privy and runs his kitchen wastes to a small cesspool, 25 to 30 feet from the creek. Mr. Wiseman had not done anything, due to difficulty in obtaining a plumber.

The company was cleaning out a spring located near the reservoir, the water of which is to be pumped to the reservoir. When the spring was used formerly the water was pumped into an open ditch, but recently, on the advice of this bureau, a wooden flume has been constructed.

Oakdale. June 12. An inspection was made of the municipal supply. Supply obtained from two bored wells 210 feet deep, situated about a mile northeast of town. Water is pumped to a 530,000-gallon reservoir. This reservoir is leaking badly, but is to be fixed shortly. There are also two wells near the southern limit of the town that can be used as an emergency supply. The quality of the water is excellent from both a bacterial and chemical standpoint.

Escalon, Escalon Water and Light Company. June 12. The supply for Escalon is obtained from a bored well 182 feet deep. Water is pumped from the well to a 36,000-gallon elevated wooden tank. Samples taken showed contamination. More samples are to be taken to confirm these results.

Modesto. June 13. Supply obtained from 10 wells situated in different parts of town. Depths vary from 200 to 300 feet. There are four pumping stations where water is pumped from the wells into the mains. The surplus flows to two 103,000-gallon steel reservoirs. Quality of water bacterially is excellent. Water is moderately hard.

Pleasanton. June 19. Water is obtained from two sets of wells. Just north of limits on highway there are seven bored wells 90 feet deep. Water is pumped into the mains. Three-quarters of a mile from center of town, near western boundary, there are five flowing wells 70 feet deep. Water flows into sump, from which it is pumped into the mains. Any surplus flows into two 250,000-gallon concrete reservoirs. Samples of this water show high bacteria counts, but no contamination. Water is hard.

Oakland, Berkeley and Alameda, East Bay Water Company. June 18 to 20. The usual monthly samples were taken of the various sources and taps of this company.

San Francisco, Spring Valley Water Company. June 19 and 28. In connection with an investigation of the supplies of this company, samples were taken at various points of the Alameda supply and of the reservoirs on the peninsula.

Redding, Northern California Power Company. June 24. Supply is pumped from Sacramento River, chlorinated at the pump suction and distributed from a large service reservoir. Operators are stationed at the pump house and as a result chlorination has been unusually effective.

Eureka. June 26. Supply is obtained from Elk River, chlorinated, filtered in pressure filters and delivered to large service reservoirs. The chlorinator is installed at the station at Elk River and is under constant supervision of excellent operators, who make several laboratory tests at the plant. Others, including bacteriological, are made daily at the water-works department laboratory in Eureka. The control is excellent and indicates that the water as delivered is uniformly safe and potable. Recommendations were made to expand the records kept to show the hourly behavior of the chlorinator, to use a slightly increased alum dose to clear up the color, and to gauge the use of soda ash so as to have a residual alkalinity of at least twenty parts per million in the treated water. The supply is becoming critically low.

Fortuna, Fortuna Water Company. June 27. Supply is obtained from fourteen 12-foot driven wells in the river bottom of the Eel River, pumped into mains and to a storage reservoir on the farther side of town. At the wells the water appears to be satisfactory, but at the taps there is much complaint, whether due to lack of elimination of dead ends, to stagnation in the reservoir on account of inlet and outlet arrangement and too little interchange of contents, or other causes, is not revealed by the cursory examination.

There are also two private supplies from springs furnished to several consumers.

Ferndale, Francis Water Company. June 27. Water is derived from springs run into large collecting and distributing reservoirs. The reputation of the supply is good.

Scotia, Pacific Lumber Company. June 27. Supply is pumped from Eel River and filtered through a mechanically agitated rapid sand filter. Alum is added in entirely inadequate amounts and during floods soda ash is also added. The river has no towns or settlements on its shed, but there are a great many lumber and logging camps, ranches, summer camps, hotels, etc., close to its banks or to tributaries. The river is unsafe in the raw state and the filter equipment is too incomplete and poorly managed to afford adequate protection. It was recommended that (1) the water be chlorinated, especially during floods; (2) the rate of operation be decreased by running the pump longer hours; (3) the dose of alum be increased to at least 100 pounds per million gallons at the present time and increased as needed to secure clarification with more turbid conditions; (4) soda ash be applied in amount to insure residual alkalinity in the final effluent and that it be measured by its own orifice box and not in the same box with the alum, as at present; (5) a coagulating basin be constructed.

Samoa, Hammond Lumber Company. June 26. In response to a complaint referred by the Shipping Board, the "bunk house wells" of the company were investigated. They had previously demonstrated pronounced *B. coli* contamination. The wells are driven on the sides of sand dunes, at the top of which and about 50 to 100 feet distant are the quarters of the workmen. Kitchen slops, floor washings, refuse, etc., may pollute the soil. It appears highly probable that this explains the condition of the wells and the management was advised to abandon and relocate the wells on a site less subject to surface contamination. In the mean time other wells which proved safe will be used.

Vacaville, Vacaville Light and Water Company. June 3. Deposits of manganese are being observed in the pipe lines. It was suggested that individual wells be sampled in an effort to locate the source.

Grimes. June 8. The supply is owned by G. L. Sanders. On the date of inspection water was being pumped from the Sacramento River and distributed without treatment. In view of the gross contamination of the river water, chlorination was ordered if this supply is to continue in use.

Colusa. June 8. The supply is obtained from deep, double-cased wells. This is an excellent water supply under good management.

Oroville, Pacific Gas and Electric Company. June 7. The supply is diverted from the North Fork of the Feather River and carried through a ditch about 30 miles to town. A chlorinator is installed, but its operation is not entirely satisfactory.

Downieville. June 6. Three supplies. The Meyer & Costa system is diverted from a tributary of the North Fork of the Yuba River and conveyed in four miles of ditch to town. The Johnson system obtains its supply from another branch and is conveyed through a ditch two miles to an earth reservoir, from which it is distributed. The Peckwith system is obtained from a creek in Hungry Mouth Canyon, carried in a ditch one mile to town. None of the supplies appear to be subject to human contamination.

Sierra City. June 6. Water is obtained from two systems. The Goff system obtains water from a spring from which it flows through a creek prior to delivery. The supply is subject to contamination. The Town system is also diverted from the same creek. Both supplies are questionable.

Camptonville. June 5. Inspection on complaint of poor quality. Supply is owned by Calvin Brothers. It is obtained from Campbell's Gulch Creek, a mile from town. Watershed conditions are good. The water is conveyed through an open ditch to reservoirs and distributing boxes. System has not been cared for and sediment has collected in the mains and reservoirs.

SWIMMING POOLS.

Applications for Permits Filed.

Dutch Flat, Placer County. Application from Mr. A. O. Glover to operate the Monte Vista Inn and Ranch Baths.

Oakdale. To operate the Oakdale Municipal Baths.

San Leandro. Application from the Recreation Commission to operate Thrasher Park Swimming Pool.

San Mateo. Application to operate the Peninsula Hotel Baths.

Santa Monica Canyon. Application from Mr. F. E. Bundy to operate the Santa Monica Canyon Baths.

Witter Springs, Lake County. Application from Witter Medical Springs, Inc., to operate the Witter Medical Springs Baths.

Temporary Permits Granted.

Pending investigation, temporary permits have been granted to operate the above-named pools.

Plans Filed.

San Francisco, Young Women's Christian Association. Detail plan of swimming pool.

San Leandro, Thrasher Park Swimming Pool. Plans for new swimming pool.

Warner Springs, San Diego County. Detailed plans for new swimming pool.

Swimming Pool Studies and Investigations.

Oakland, Idora Park Swimming Pool. June 1 to 30. Investigation continued throughout the month. This is an outdoor swimming pool. The filter has been renovated and additional sand added. Use of alum has been discontinued, as it was found that microscopic organisms are so abundant that they take the place of alum. The rate of filtration has been increased from 2.3 to 2.8 gallons per square foot per minute, to advantage. More water is filtered and more algæ actually removed from the pool.

This pool has a sand beach, and during the month the scum gutters and sewer became clogged with fine sand. The greater part of the system has been relaid and sand traps placed opposite each scum gutter connection.

Some study was given to bathing-suit disinfection. The indications are that drying by hot air or sunlight fails to give disinfection.

Oakland, Piedmont Baths. June 26. This pool is tile-lined, capacity 288,000 gallons; housed in a building having glass roof. It is filled with ocean water and heated. Pool is emptied three times a week and filled with sea water brought in from the ocean in a 490,000-gallon barge to a nearby wharf, from which it is pumped to a 472,000-gallon covered reservoir near the baths. It appears that a portion of the pool water is pumped back to the reservoir instead of into the sewer and treated with 25 pounds of alum and settled. Two or three pounds of copper sulphate is added daily to the pool, as a disinfectant. According to daily analyses made by a private laboratory, counts are kept very low, but algæ develop notwithstanding. The prevailing organism is protococcus. We found 5,000 standard units per c.c. Color 55. Turbidity 12. It appears that copper sulphate as a germicide in swimming pools deserves investigation.

Alameda, Neptune Beach. June 26. An outdoor swimming pool. The pool is filled with bay water, badly contaminated, and treated with copper sulphate and alum as the pool fills. Analyses show low count, but high *B. coli* content, probably due to initial contamination. Turbidity is high, 17 to 130 p.p.m. Objects one foot below the surface are invisible. The sand beach around the pool is responsible for clogging of sewers at showers. The pool is filled two or three times weekly and no algæ troubles have developed. Chlorination is planned as a substitute for the present treatment.

LABORATORY WORK.

The following is a summary of the work done by the laboratory of the Bureau of Sanitary Engineering for June, 1918:

Los Angeles Office. Bacteriological examinations of water, 104.

Berkeley Office. Bacteriological examinations of water, 475. Chemical examinations of water (partial), 494. Microscopic examinations of water, 42. Bacteriological examinations of sewage, 10.

Improvement of a Hydrogen-Sulphide Water.

Laboratory experiments were carried on to determine the feasibility of improving the water supply of the Arroyo Grane Tubercular Sanitarium at Livermore. The supply is obtained from a 110-foot drilled well, owned by the Cresta Blanca vineyard. Hydrogen sulphide and the high hardness were the objectionable features to be removed from the water. Bacterially the water is considered safe at present, although a gross contamination was present in the supply at the beginning of the investigation, due to connections with a contaminated creek near the well. When this connection was cut off, the contamination immediately disappeared.

The water is pumped at the well through several hundred feet of galvanized and castiron pipe to a 5,000-gallon tank. From this point the water is again pumped to a 15,000-gallon tank on a hill back of the sanitarium. This latter tank serves as the distributing and pressure reservoir for the institution. Galvanized pipe is used as the distributing system.

Chemical examination of the water directly from the well showed a low organic content, but highly mineralized with 20.0 parts per million of hydrogen sulphide present. The mineral analysis figured to hypothetical combination gave the following results:

Calcium carbonate ($CaCO_3$)	110
Magnesium carbonate ($MgCO_3$)	302
Sodium sulphate (Na_2SO_4)	222
Sodium chloride ($NaCl$)	248
Iron	0
H_2S	20

Magnesium carbonate, sodium sulphate and sodium chloride are the predominating salts in the water. Hydrogen sulphide (H_2S) is also present in large quantity and would make this water unpalatable and highly discolored due to the action of the hydrogen sulphide on the water pipe.

Samples taken at different parts of the system showed a gradual increase of iron from zero at the well to 0.6 parts per million at the tap in the hospital. Zinc was also present in a sample taken at the hospital. The presence of both iron and zinc in the water indicated that the hydrogen sulphide was attacking the pipe line. Inspection of a portion of the galvanized pipe showed the zinc coating practically dissolved off.

The precipitated iron and sulphur in the water imparted a very distinct color and turbidity to the supply and made the water repellant to those who had to drink it. The extreme hardness of the water was also objected to on account of the difficulty in obtaining a lather with soap. Laboratory experiments were made to remove both of these objectionable features.

Aeration proved to be satisfactory in the removal of the disagreeable hydrogen sulphide odor, while the addition of 4 pounds of 90 per cent lime, after removal of the hydrogen sulphide, gave a water low in hardness and agreeable to the senses. As the present water supply has not yet been decided upon as a permanent supply, no recommendations were made to soften the water. To remove the objectionable odor, however, an overhead splash platform with cascade effect was recommended and subsequently built at both tanks. After a week's operation with this aerating device, tests were made to determine its effectiveness in removing the hydrogen sulphide. The results were as follows:

	H_2S	Iron	Odor
Cresta Blanca wells at pump	20.0	0.0	Very strong H_2S.
Inlet to upper tank (after first aeration)	2.7	0.2	Distinct H_2S.
Tap in sanitarium (after second aeration)	0.0	0.2	No odor.

The results were gratifying, as the water had been made palatable and freed from the objectionable iron at a very trifling cost.

REPORT OF THE BUREAU OF FOODS AND DRUGS FOR JUNE, 1918.

E. J. Lea, M.S., Director.

A total of 224 samples were received at the laboratory during the month of June.

The official samples of foods consisted of beverages, bread, coffee substitute, condiments, confectionery, corn meal, cream, cream of tartar, dried eggs, canned fish, liquors, meat, milk, noodles, nuts, poultry foods, spices, raspberry syrup, maple syrup, tomato products and vegetables. The drug samples were blackberry cordial, cold cure, corn remedy, Jamaica rum, camphorated oil, sweet oil, tonic port and tincture of iodine.

The unofficial samples of foods and drugs consisted of catsup, dough, fish, flour, Hebe compound, ice cream, chopped meat, milk, nuts, oils, poultry food, syrup, tomato products, water, salve and corncobs.

Fifty-three samples were received from the state institutions, classified as follows: Butter, cheese, chicory, coffee, corn meal, flour, poultry food, spices, tea and blankets.

Sugar Substitutes.

Inquiries have been made by manufacturers of soft drinks and ice cream regarding the use of substitutes for sugar. The United States Department of Agriculture, Bureau of Chemistry, has recently made an investigation of several materials which can be substituted for sugar.

The principal sweetening agents for replacing a part of the sugar in bottled soft drinks are corn sirup (ordinary glucose), corn sugar, maltose sirup, honey, and high-grade refiner's sirup.

The investigation showed that each of the above substitutes possesses a characteristic flavor which may affect the palatability of the beverage unless it is used judiciously in the proper combination with ordinary sugar.

It was further shown that "the keeping quality of these products when made up into sirups is not so high as that of ordinary sugar sirup, but if the new sirups are filtered, boiled and used immediately, the keeping quality of the finished beverage is satisfactory, as observed over a period of six weeks. The relative sweetness of the products mentioned above (excepting refiner's sirup) is as follows: Ordinary sugar 100; honey (44° B.) 75; corn sugar 45; maltose sirup (42° B.) 30; corn sirup (45° B.) 20. These products can be used to replace one-fourth to one-half the amount of sugar ordinarily used, thereby effecting a saving of approximately 50,000 tons of sugar a year."

Saccharin is not included in the list of substitutes for sugar. This material has no food value and investigations have shown that it is actually deleterious to health. Saccharin can not be legally used in foods in the state of California.

The California pure foods act places no restrictions on the use of corn sirup, corn sugar, maltose sirup, honey and high-grade refiner's sirup.

The United States Department of Agriculture recommends that the material substituted for sugar be declared on the label. This recommendation is endorsed by the California Pure Foods and Drugs Bureau.

Copies of bottlers' formulas for sugar-saving sirups may be obtained by writing the State Food and Drug Laboratory, Berkeley, California.

CASES REFERRED TO DISTRICT ATTORNEYS.

The following cases were referred by the State Board of Health, at the June meeting, to the district attorneys for prosecution:

Hayward—Castro Villa Cafe, A.V.H. gin. *Kelseyville*—F. C. Renfro, walnuts. *Long Beach*—South Coast Canning Company, Inc., sardines in tomato sauce. *Los Angeles*—American Olive Company, tomato sauce; Sohn Drug Company, tincture of iodine. *Montague*—Geo. W. Quinby, Gem Egg Saver. *Oakland*—Armour & Company, eggs; B. D. Campbell, eggs; Fred W. Diehl, eggs; Otto Egenberger, egg whites; Theo. Gier Wine Company, Old Crow whiskey, Belmont whiskey, Golden Wedding Rye whiskey and Sunnybrook Bourbon whiskey; S. Ischer, chicken; Key Route Soda Fountain, cherry sirup; R. N. Luscombe & Company, black pepper; New Liberty Bakery, custard pie; Oyster Loaf Grill, Worcestershire sauce. *Richmond*—Imperial Restaurant, black pepper; Liberty Grill, apricot brandy and fresh milk. *San Francisco*—Columbia Coffee and Spice Company, cayenne pepper and cereals; Fleischmann Company of California, distilled malt vinegar; Hencken & Hencken, chipped beef; Smith-Robertson & Company, poultry condiment. *Venice*—Lang's Meat Market and Grocery, chopped meat.

CONVICTIONS UNDER FOODS AND DRUGS ACTS REPORTED DURING JUNE, 1918.

There were 19 convictions obtained during the month of June, a total of $195 in fines being imposed. Following is a list of the violators:

Carmel—Dr. J. E. Beck, essence of peppermint, fined $25.

Crockett—C. D. Crowley, vermouth, fined $5.

Healdsburg—Peter Dirvin, tomatoes, fined $15.

Monterey—Ordway Pharmacy, cherry sirup, fined $25.

Oakland—American Creamery Company, eggs, fined $5; Fred W. Diehl, eggs, fined $5; Otto Egenberger, egg whites, fined $5; Isabella Bakery, pie, fined $5; S. Ischer, chicken, fined $5; Mueller Brothers & Company, meat, fined $10; C. M. Stegman, cherry sirup, guilty.

Sacramento—Columbia Market, chocolate, fined $5; W. L. Helke, camphorated oil, fined $5, and blackberry brandy, fined $5.

San Francisco—Reed Pickle Works, Inc., tomato pulp, guilty; Smith-Robertson & Company, pepper, fined $10; H. Wreden & Company, crab meat, fined $10.

San Pedro—Southern California Fish Company, Inc., sardines, fined $50.

Santa Rosa—Brooklyn Hotel Bar, Amer Picon, fined $5.

ARTICLES OF FOOD CONDEMNED.

The following articles of food, condemned upon physical and chemical examination as unfit for food, were destroyed or denatured during the month of June, 1918:

Tomato puree, 575 gallons, filthy and decomposed, Italian-American Canning Company, Inc., Niles.

Walnut meats, 30 pounds, rancid, wormy and webby, Waters Brothers, Oakland.

FOOD INSPECTION DECISION 176.

Evaporated Apples.

The following definition and standard for evaporated apples was adopted by the Joint Committee on Definitions and Standards August 7, 1916, and was approved by the Association of American Dairy, Food, and Drug Officials August 10, 1916, and by the Association of Official Agricultural Chemists November 22, 1916:

> *Evaporated apples* are evaporated fruit made from peeled, cored, and sliced apples, and contain not more than twenty-four per cent (24%) of moisture as determined by the official method of the Association of Official Agricultural Chemists.

The foregoing definition and standard is adopted as a guide for the officials of this department in enforcing the Food and Drugs Act.

REPORT OF THE BUREAU OF REGISTRATION OF NURSES FOR JUNE, 1918.

Anna C. Jammé, R.N., Director.

The examination held June 19 and 20 was remarkable from two standpoints: first, from the large number of applicants, the largest since the establishment of the bureau; second, from the number who were graduated prior to January, 1918. There were 255 who wrote on the examination, and of these, 131 were graduated before January, 1918. Although the Red Cross Nursing Service had allowed a waiver in registration, this voluntary submission to an examination demonstrated a magnificent spirit of professional patriotism on the part of our graduate nurses for which we may be very justly proud. To take an examination is an ordeal even though one may feel very sure of themselves, but to take it several years after graduation calls for courage which we can but admire in those who come to it after 10, 15, and even 27 and 30 years as was seen in nine cases in this particular examination. Many of the applicants said they would not go into service without their R. N.

Correction of the examination papers was quickened by the generous assistance of a force of nurses. Several hospitals relieved their instructors for five days, and a few of these instructors gave up these days of their vacation in order that results might be obtained as early as possible. We are, therefore, able to give out the list of successful applicants a month ahead of the usual time.

List of Successful Applicants in Examination June 19-20, 1918.

Name	School
Alexander, Veronica M.	San Francisco
Adkins, Grace	Pacific, L. A.
Adams, Mrs. Etta Kegler	Angelus, L. A.
Allen, Mrs. Grace M.	Loma Linda
Arvidson, Hilda Amelia	Pasadena
Barker, Gladys May	East Bay
Bariellas, Julie B.	French, S. F.
Baumrucker, Mae Bell	Union Labor, Eureka
Berlin, Dora	San Francisco
Benedict, Jean Marian	Samuel Merritt
Bennett, Mary Leonora	Fabiola
Belz, Florence Elizabeth	Stanford
Belli, Norma	St. Luke's, S. F.
Bognuda, Margherita C.	Union Labor
Boillot, Margaret Judd	Lane
Braumiller, Alice Frieda	Samuel Merritt
Brown, Constance Rose	Stanford
Brown, Isabel W.	Univ. of Calif.
Burgess, Edna Zuleim	St. Francis
Barclay, Marjorie Georgina D.	Good Samaritan, L. A.
Badger, Verna R.	Los Angeles County
Barry, Margaret	St. Vincent's, L. A.
Baxter, Charlotte Mary	Angelus
Berg, Olga Nathalie	Pasadena
B'hend, Olga E.	Clara Barton, L. A.
Bergman, Ruth Christine	Loma Linda
Beck, Karen Ebba	California, L. A.
Booz, Anna Mildred	Angelus
Brittle, May	California, L. A.
Buelna, Brigida Marie	California, L. A.
Cassano, Elizabeth Katherine	St. Mary's, S. F.
Clay, Grace Marie	San Francisco
Clemens, Marguerite	Columbia, San Jose
Clement, Mary	Fairmont
Clark, Aura Olive	Fairmont
Cochran, Letitia	St. Mary's, S. F.
Courtney, Agnes B.	St. Mary's, S. F.
Corbett, Mary Magdalen	Mary's Help, S. F.
Capper, Cassie Browne	Good Samaritan, L. A.
Churchill, Rhoda Virginia	Angelus, L. A.
Chapman, Elizabeth M.	St. Helena
Common, Marguerite Madeline	Los Angeles County
Cranston, Jessie May	Los Angeles County

Name	School
Delaney, Mary Catherine	Mt. Zion, S. F.
Dennery, Daisy Hortense	San Francisco
Deward, Mary Dexter	Santa Clara Co., San Jose
Davidson, Lucile	St. Luke's
Dahl, Helen Jeannette	Fabiola
DeMeyer, Ellen M.	San Francisco
Danielson, Ruth Elsie	Los Angeles County
Dignan, Ednah Cecil	Mt. Zion
Dozier, Marion	St. Luke's
Donnellan, Gertrude	Hahnemann, S. F.
Duncan, Mary	St. Francis, S. F.
Dwyer, Agnes Lenora	Mary's Help
Davis, Emilie Teesdale	St. Vincent's, L. A.
Davison, Olive Florence	Los Angeles County
Davies, Bertha May	Deaconess Evangelical, East St. Louis
Dunbar, Lois	Pasadena
Dunn, Marguerite M.	Agnew, San Diego
Dyson, Effie Stella	**California, L. A.**
Fay, Winifred Raphael	St. Mary's, S. F.
Foster, Mabel Edith	Union Labor
Fitzpatrick, Marie Antoinette	Clara Barton
Fahlgren, Hilma Elizabeth	Crocker St., L. A.
Franklin, Emma Mary	Madison, Madison, Wis.
Galliher, Norah Lesley	Mt. Zion, S. F.
Goth, Alma Louise	East Bay
Goble, Elizabeth	St. Helena
Grable, Emily	Hanford, Hanford, Calif.
Granger, Harriet Beeman	Children's, S. F.
Grant, Beatrice	St. Vincent's
Hall, Theresa R.	Stanford
Hartog, Reta	Fabiola
Healy, Catherine Mary	St. Mary's, S. F.
Hillis, Margaret Mary	St. Mary's, S. F.
Hill, Pearl	Samuel Merritt
Hodges, Alberta	Samuel Merritt
Holt, Teresa Cowan	Franklin, S. F.
Horne, Matilda	San Francisco
Hogan, Madeleine Dolores	Univ. of Calif.
Hoehn, Minnie	French, S. F.
Hord, Mrs. Mary Gray	St. Luke's, S. F.
Hackett, Helene	Abbott, Minneapolis, Minn.
Harris, Cordia L.	Emer. and General, L. A.
Harrison, Ivy Myrtle	Angelus, L. A.
Harrymore, Stella Sylvania	Redlands, Redlands, Cal.
Hill, Nela	Good Samaritan, L. A.
Houston, Phrona Gail	Methodist of Southern Cal., L. A.
Hockerston, Marguerite	Good Samaritan, L. A.
Huffman, Mrs. Myra Ethel	Pacific, L. A.
Haun, Emma May	Dameron, Stockton, Cal.
Hinkle, Fonda Eleanor	Sierra, Sonora, Cal.
Jacobs, Lillian Miriam	Mt. Zion, S. F.
Johnson, Edna Doris	Hahnemann, S. F.
Joseph, Leanora Clarie	Franklin, S. F.
Jaentner, Henriette	San Francisco
Johnson, Mrs. Justina Emilia	Rhode Island, Providence, R. I.
Johnston, Mary Emma	St. Francis, S. F.
Jordan, Ramona M.	Redlands, Redlands, Cal.
Johnson, Mary	Good Samaritan, L. A.
Jewell, Daisy W.	Crocker St., L. A.
James, Dow Sylvester	Medical Evangelists, Loma Linda, Cal.
Johnson, Edith	Kansas Sanitarium, Wichita, Kas.
Joens, Esther Sophia	Dameron, Stockton
Kelly, Adeline	French
Kelleher, Mary Agnes	Mary's Help, S. F.
Kelly, Annie Marie	St. Francis, S. F.
Kirchhoffer, Alma	Univ. of Cal.
Kitts, Lilah Mildred	Lane Hospital, S. F.
Kruschke, Grace Monson	Samuel Merritt
Kemp, Maude Adella J.	Angelus
Kirker, Rose May	Emer. and General, L.A.
Klopfenstein, Mabel Grace	San Bernardino County
Krumbholz, Sophie Anderson	Woman's of Chicago, Ill.
Kay, Mrs. Ellen	Vancouver General, Vancouver, B. C.
Langpaap, Henrietta Margaret	Hahnemann, S. F.
Lang, Clara Astrea	St. Luke's, S. F.
Lange, Adeline Roma	Samuel Merritt
Lendrum, Mary Maud	Samuel Merritt
Leahy, Regina Agnes	St. Mary's, S. F.
Loftus, Belinda Agnes	Providence, Oakland
Logan, Shirley Muriel	Mt. Zion, S. F.
Langenberg, Marion	St. Vincent's, L. A.
Lane, Marjorie	Loma Linda
Lloyd, Helen Margaret	Angelus, L. A.
Liben, Anna Alberdeen	Cottage, Santa Barbara
Linn, Elva Rae	Emer. and General, L. A.
McClay, Lulu Grant	Fabiola
McArdle, Kathleen	St. Mary's, S. F.
McEwen, Pearl	Univ. of Cal.
McNeilly, Alma Dean	St. Francis, S. F.
McDonald, Gertrude Barbara	Emer. and General, L. A.
McDowell, Elsie Margaret	California, L.A.
McPhee, Edythe A.	Los Angeles Infirmary
Magee, Anita Gregory	Stanford
Martin, Margaret	Burbank, Fitchburg, Mass.
Maxwell, Marion Theresa	Children's, S. F.
Martin, Rose Beatrice	Fairmont, S. F.
Madsen, Anna Laure	Mary's Help
Malcolm, Edith	San Francisco
Murray, Marie Anastasia	St. Francis, S. F.
Morrison, Muriel	Stanford, S. F.
MacCorkell, Elizabeth Aileen	Clara Barton
Meday, Margaret Hope	Pasadena
Muller, Grace M.	Kenocha, Chicago, Ill.
Mueller, Ottilie C.	Deaconess, Halle on Saale, Saxonia
Ney, Ida	Alta Bates
Nickel, Elsa Elizabeth	Pasadena
Nielsen, Anna Christine	Sierra, Sonora, Cal.
Olsen, Gunda Louise	Union Labor, Eureka
Osborn, Phebe O.	San Francisco
Osterheldt, Helen Louise	Good Samaritan, L. A.
Odam, Alice Lorene	Angelus, L. A.
Parmelee, Lucille Geneva	Fabiola, Oakland, Cal.
Parker, Ethel Mildred	Burbank, Fitchburg, Mass.
Penrod, Anna Catherine	Mt. Zion, S. F.
Parrish, Constance Hazel Odell	Roosevelt, Berkeley, Cal.
Paulsen, Rose Helen	French, S. F.
Peterson, Winifred T.	San Francisco
Powers, Hazel Edna	Lane, S. F.
Place, Minnie Myrtle	Samuel Merritt
Persons, Mildred Kirk	Agnew, San Diego
Peterman, Grace Estella	Santa Ana Hospital
Perkins, Dixie Louise	California
Parker, Mrs. Ethel Charlotte	Sacramento County

Name	School
Pilliken, Annie Creighton	Mater Misericordiae, Sacramento
Robinson, Kathryn	San Francisco
Ryder, Beulah Louisa	Samuel Merritt
Reinhardt, Violet G.	Los Angeles County
Riley, Theodora	Philadelphia, Philadelphia, Penn.
Rombaugh, Mary Leona	Glendale, Glendale, Cal.
Ryan, Evalyn Margaret	St. Joseph's, Stockton
Racer, Ila Rea	Evans, Modesto, Cal.
Satterberg, Emily Esther	Burnett, Fresno, Cal.
Shearer, Lucy Landis	Columbia, San Jose
Sheffer, Lula Etta	Mary Jesse, Santa Rosa
Smith, Dora Price	Children's, S. F.
Smith, Nella G.	French, S. F.
Sommers, Minnie R.	Alta Bates
Spekain, Vera Julia	Peninsula, Palo Alto, Cal.
Sproul, Mildred Lucille	Children's, S. F.
Steinberg, Edith Elizabeth	Univ. of Cal.
Stevens, Ellen Evelyn	Santa Clara County, San Jose
Stouky, Honora Anne	Alameda Sanitorium
Stufft, Ida Mae	Samuel Merritt
Sweaney, Ethel Irene	East Bay, Oakland, Cal.
Saverien, Alma	Angelus, L. A.
Saunders, Mary Louise	Pittsburg, Penn.
Shelley, Margaret F.	Crocker St., L. A.
Smith, Lilias M.	Good Samaritan, L. A.
Sprague, Louise	Los Angeles County
Springen, Elsie Thoreta	Glendale
Stevens, Elizabeth H.	Angelus, L. A.
Stewart, Edna	California, L. A.
Snelling, Nellie E.	St. Thomas, S. F.
Thomas, Margaret E.	Mt. Zion, S. F.
Thomas, Eva Lomenda	St. Francis, S. F.
Terrill, Edith Sybil	St. Helena
Trefts, Amy B.	Alta Bates
Troyan, Elva	St. Francis
Tynan, Gertrude L.	East Bay
Thomas, Mary	Presbyterian, Chicago, Ill.
Trotter, Lucy Anna L.	Angelus
Van Orden, Helen Owens	Alameda
Wallace, Frances Edythe	Lane, S. F.
Welch, Mattie	Samuel Merritt
White, Ruth Helen	St. Helena
Whitmore, Helen Frances	St. Mary's, S. F.
Willcox, Alyce Edith	Mt. Zion, S. F.
Williams, Edith T.	St. Mary's, S. F.
Wagner, Thelma	Pacific, L. A.
Wooten, Jimmie	Good Samaritan, L. A.
Witherow, Mary Theresa	St. Joseph's, Stockton
Warne, Ada Mary	Sierra, Sonora, Cal.
Zegwaard, Helena Anna M.	Univ. Hosp., Utrecht, The Netherlands

At the regular meeting of the board on July 6 the following nurses were granted the certificate as registered nurse without examination, in accordance with section 8 of the law:

Holcomb, Stell (Tennessee), No. 6414.
McNew, Ora Etta (Illinois), No. 6437.
Riordan, Honora (North Dakota), No. 6454.
Sladek, Henrietta (Colorado), No. 6417.
Weeber, Celia H. (Colorado), No. 6468.

The Army School of Nursing.

Announcement has been made by the Surgeon General of the establishment of the army school of nursing under the Medical Department of the Army. This school is for the purpose of affording women who desire to care for the sick and wounded soldiers an opportunity to take a course which will lead to a diploma in nursing. The school will provide experience in surgical and medical nursing, including the various branches under these services. For obstetrics and diseases of women and children affiliation with approved civil hospitals for the second or third years.

The course will cover three years and credit will be given for previous education and the prescribed science courses. The program of instruction is based on the standard curriculum issued by the National League of Nursing Education. Students will be assigned to the various training camps where these training centers exist and to the services provided through affiliation with civil hospitals. The headquarters of the school is located in the Surgeon General's office, to which all correspondence must be addressed.

The Director's Leave of Absence.

The director has been requested by the Surgeon General to act as inspecting nurse and to assist in establishing training units in connection with base hospitals. A leave of absence was accorded by the State Board of Health at the regular meeting on July 6 and this will take effect on August 15.

Miss Laura Grant, R.N., graduate of the Pasadena Hospital, Pasadena, has been appointed temporarily to the position of assistant to the director. A State Civil Service examination will be held for this position in the early fall.

LIST OF COUNTY AND CITY HEALTH OFFICERS.

Alameda County—
Dr J. Hal Cope---------Pleasanton
Alameda-------------Dr. A. Hieronymus
Albany---------------Dr. J. F. Diddle
Berkeley---------------Dr. J. J. Benton
Emeryvile-----------Dr. A. T. Drennan
Hayward-----------Dr. F. W. Browning
Livermore-------------Dr. J. K. Warner
Oakland-----------Dr. Kirby B. Smith
Piedmont-----------Dr. Benj. T. Mouser
Pleasanton------------Dr. J. Hal Cope
San Leandro---------Dr. Luther Michael
Alpine County—
Mr. Fred S. Dunlap---Markleeville
Amador County—
Dr. G. L. Lynch------Amador City
Jackson-----------------------H. E. Kay
Plymouth------------------W. J. Ninnis
Sutter Creek------------T. W. Trudgen
Butte County—
Dr. L. L. Thompson-------Gridley
Biggs---------------------Sarah J. Hiett
Chico-------------------W. H. Marshall
Gridley-------------Dr. L. Q. Thompson
Oroville----------------Dr. W. F. Gates
Calaveras County—
Dr. George F. Pache, Angels Camp
Angels Camp---------Dr. E. W. Weirich
Colusa County—
Dr. G. W. Desrosier---------Colusa
Colusa---------------Dr. G. W. Desrosier
Contra Costa County—
Dr. Chas. R. Blake------Richmond
Antioch--------------Dr. W. S. George
Concord------------------Dr. F. F. Neff
El Cerrito--------------Dr. J. F. Diddle
Hercules--------------Dr. C. T. Wetmore
Martinez---------Dr. Edwin Merrithew
Pinole------------Dr. M. L. Fernandez
Pittsburg----------------Dr. H. E. Peters
Richmond--------------Dr. Chas. R. Blake
Walnut Creek------------Dr. C. R. Leech
Del Norte County—
Dr. E. M. Fine-------Crescent City
Crescent City-----------Dr. E. M. Fine
El Dorado County—
Dr. S. H. Rantz--------Placerville
Placerville-------------------P. J. Hall
Fresno County—
Dr. G. L. Long-------------Fresno
Clovis----------------Dr. M. S. McMurtry
Coalinga----------Dr. C. W. Hutchinson
Firebaugh--------------------R. P. Snyder
Fowler------------------Chas. Chapman
Fresno-----------------Dr. C. Mathewson
Kingsburg--------------Dr. T. D. Smith
Reedley------------Dr. Chas. H. Traber
Sanger-------------Dr. Thos. F. Madden
Selma-----------Dr. Fred H. Williams
Glenn County—
Dr. Etta S. Lund---------Willows
Orland---------------------Dr. S. Iglick
Willows--------------Dr. W. H. Walker
Humboldt County—
Dr. Carl T. Wallace-----------Eureka
Arcata-------------Dr. G. W. McKinnon
Blue Lake----------------Dr. Earl W. Hill
Eureka--------------------Dr. L. A. Wing
Ferndale----------------Dr. A. P. Griffin
Fortuna--------------Dr. Orville Rockwell
Imperial County—
Dr. R. K. McGuffin--------Imperial
Brawley----------Dr. Eugene Le Baron
Calexico----------------Dr. M. L. Parcels
El Centro---------------Dr. W. F. Peterson
Holtville-----------------C. A. Johnston
Imperial---------------Dr. R. K. McGuffin

Inyo County—
Dr. I. J. Woodin------Independence
Bishop-------------------Dr. C. J. Bevan
Kern County—
Dr. C. A. Morris---------Bakersfield
Bakersfield--------------Dr. P. J. Cuneo
Delano-------------------Dr. J. R. Hicks
Maricopa---------------Dr. H. N. Taylor
McKittrick----------Dr. Robert C. Dear
Taft----------------------Dr. M. W. Pascoe
Tehachapi-------------Dr. E. F. O'Reilly
Kings County—
Dr. C. L. Scott------------Hanford
Corcoran-------------------Dr. J. T. Peery
Hanford-----------------Dr. A. S. Torrens
Lemoore------------------Dr. W. P. Byron
Lake County—
Dr. A. N. Craig---------Kelseyville
Lakeport ----------------------------------
Lassen County—
Dr. W. E. Dozier---------Susanville
Susanville---------------Dr. W. E. Dozier
Los Angeles County—
Dr. J. L. Pomeroy-----Los Angeles
Alhambra-----------------Dr. F. E. Corey
Arcadia------------Dr. Chas D. Gaylord
Avalon------------------Dr. J. J. Peckham
Azusa-------------------Dr. John E. Hill
Beverly Hills--------------Dr. J. R. Perry
Burbank-------------Dr. E. H. Thompson
Claremont------------------Dr. J. I. Latimer
Compton-----------------------E. E. Elliott
Covina -------------------Dr. J. A. Lepley
Culver City----------Dr. W. F. Mortensen
Eagle Rock-------------Dr. C. H. Phinney
El Monte--------------------Dr. S. L. Corpe
El Segundo--------------------R. F. Davis
Glendale-------------------Dr. R. E. Chase
Glendora--------------Dr. J. L. Pomeroy
Hermosa Beach-----------------B. F. Brown
Huntington Park------Dr. W. Thompson
Inglewood------------------Dr. W. W. Reber
La Verne--------------------Dr. J. E. Hubble
Long Beach--------------Dr. R. L. Taylor
Los Angeles--------------Dr. L. M. Powers
Manhattan Beach------Llewellyn Price
Monrovia-------------Dr. Chas. D. Gaylord
Monterey Park------Dr. J. S. Trewhella
Pasadena------------Dr. Stanley P. Black
Pomona--------------------Dr. N. J. Rice
Redondo Beach------Dr. D. R. Hancock
San Fernando-----Dr. John M. Griffiths
San Gabriel------Dr. Wm. W. Worster
San Marino-----Dr. W. LeMoyne Wills
Santa Monica-----------Dr. F. J. Wagner
Sierra Madre------Dr. R. H. Mackerras
South Pasadena-------Dr. C. F. Metcalf
Venice---------------------Dr. I. L. Magee
Vernon------------------Dr. L. J. Williams
Watts------------------------Dr. J. L. Lamb
Whittier------------------Dr. W. H. Stokes
Madera County—
Dr. L. St. John Hely------Madera
Madera-------------Dr. L. St. John Hely
Marin County—
Dr. J. H. Kuser--------------Novato
Belvedere-------------Dr. Florence Scott
Corte Madera--------------------A. F. Roberts
Larkspur-----------------Dr. L. Newman
Mill Valley----------------James V. Chase
Ross------------------Dr. Thos. U. Smith
San Anselmo-------------Dr. O. W. Jones
San Rafael----------------Dr. W. F. Jones
Sausalito ----------------------------------
Mariposa County—
Dr. F. L. Wright--------Mariposa

LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.

Mendocino County—
Dr. S. L. Rea----------Ukiah
Fort Bragg----------Dr. L. C. Gregory
Point Arena----------Conrad Nicks
Potter Valley----------W. T. Eddie
Ukiah----------Dr. Lew K. Van Allen
Willits----------Dr. F. G. Gunn
Merced County—
Dr. J. L. Mudd----------Merced
Gustine----------Dr. C. E. Stagner
Los Banos----------Dr. R. Jadarola
Merced----------Dr. H. Kylberg
Modoc County—
Dr. John Stile----------Alturas
Alturas----------Dr. John Stile
Mono County—
----------Bridgeport
Monterey County—
Dr. J. A. Beck----------Salinas
Carmel-by-the-Sea----------W. T. Kibler
King City----------Dr. D. Brumwell
Monterey----------Peter Sella
Pacific Grove----------James P. Evans
Salinas----------W. E. Hallock
Napa County—
Dr. O. T. Schulze----------Napa
Calistoga----------Harry Von Arx
Napa----------Alex. Hull
St. Helena----------Wynn M. Powers
Nevada County—
Dr. Carl P. Jones----------Grass Valley
Grass Valley----------Dr. Sidney Talbot
Nevada City----------Geo. H. Calanan
Orange County—
Dr. J. I. Clarke----------Santa Ana
Anaheim----------Dr. J. W. Truxaw
Brea----------Dr. F. M. Rossiter
Fullerton----------Dr. J. H. Lang
Huntington Beach----------Dr. G. A. Shank
Newport Beach----------J. A. Porter
Orange----------Dr. J. C. Crawford
Santa Ana----------Dr. J. I. Clark
Seal Beach----------Dr. J. Park Dougall
Stanton----------Dr. J. H. Swan
Placer County—
Dr. John Manson----------Lincoln
Auburn----------Dr. A. N. Couture
Colfax----------Dr. H. N. Miner
Lincoln----------F. R. Elder
Rocklin----------John H. Gregory
Roseville----------G. W. Lohse
Plumas County—
Dr. B. J. Lasswell----------Quincy
Riverside County—
Dr. James G. Baird----------Riverside
Banning----------Dr. L. M. Ryan
Beaumont----------Dr. F. D. West
Blythe----------Dr. W. H. Chapman
Corona----------Dr. W. S. Davis
Elsinore----------Dr. G. E. Shank
Hemet----------Dr. H. O. Miller
Perris ----------
Riverside----------Dr. W. B. Wells
San Jacinto----------Will H. Gray
Sacramento County—
Dr. J. H. Leimbach----------Isleton
Sacramento----------Dr. W. J. Hanna
San Benito County—
Dr. J. M. O'Donnell----------Hollister
Hollister----------Dr. J. M. O'Donnell
San Juan----------Joseph De Lucchi
San Bernardino County—
----------San Bernardino
Chino----------Dr. Elgar Reed
Colton----------Dr. C. F. Whitmer
Needles----------Dr. A. S. Parker
Ontario----------Dr. Calvert L. Emmons
Redlands----------Dr. Wm. A. Taltavall
Rialto----------Dr. L. P. Barbour
San Bernardino----------Dr. F. M. Gardner
Upland----------E. R. Bowman

San Diego County—
Dr. A. M. Lesem----------San Diego
Chula Vista----------Dr. G. E. Fuller
Coronado----------Dr. Raffael Lorini
East San Diego----------Dr. C. R. Carpenter
El Cajon----------Dr. Chas. R. Knox
Escondido----------Dr. B. L. Crise
La Mesa----------Dr. A. D. Marks
National City----------Dr. Theo. F. Johnson
Oceanside----------Dr. R. S. Reid
San Diego----------Dr. E. P, Chartres-Martin
San Francisco (city and county)—
Dr. W. C. Hassler----------San Francisco
San Joaquin County—
Dr. John T. Davison----------Stockton
Lodi----------Dr. S. W. Hopkins
Stockton----------Dr, Linwood Dozier
Tracy----------Dr. J. G. Murrell
San Luis Obispo County—
Dr. C. J. McGovern----------San Luis Obispo
Arroyo Grande----------Dr. H. S. Brown
Paso Robles----------W. W. Hughes
San Luis Obispo----------W. F. Cook
San Mateo County—
Dr. F. Holmes Smith----------San Bruno
Burlingame----------Dr. Jane H. Parkhurst
Daly City----------Dr. A. H. Rankin
Hillsborough----------C. M. Hirschey
Redwood City----------Dr. J. E. Chapin
San Bruno----------Dr. F. Holmes Smith
San Mateo----------Dr. W. C. McLean
So. San Francisco----------Dr. J. C. McGovern
Santa Barbara County—
Dr. G. S. Loveren----------Santa Barbara
Lompoc----------Dr. C. B. Constable
Santa Barbara----------Geo. H. Hicks
Santa Maria----------Dr. O. P. Paulding
Santa Cruz County—
Dr. Wm. H. Keck----------Santa Cruz
Santa Cruz----------Dr. A. N. Nittler
Watsonville----------Dr. F. H. Koepke
Santa Clara County—
Dr. Wm. Simpson----------San Jose
Alviso----------Alice Davee
Gilroy----------Dr. J. W. Thayer
Los Gatos----------Dr. R. S. Anthony
Mayfield----------Joseph Ponce
Morgan Hill----------Dr. W. D. Miner
Mountain View----------Dr. A. H. MacFarlane
Palo Alto----------Louis Olson
San Jose----------Dr. A. S. Bailey
Santa Clara----------Dr. G. W. Fowler
Sunnyvale----------Mrs. Norman Schofield
Shasta County—
Dr. S. T. White----------Redding
Kennett----------Dr. J. P. Sandholt
Redding----------E. A. Rolison
Sierra County—
Dr. O. A. Eckhardt----------Downieville
Loyalton----------Dr. L. G. Ede
Siskiyou County—
Dr. W. F. Shaw----------Yreka
Dorris----------Otha A. Wilkins
Dunsmuir----------Herman Woodward
Etna----------Dr. W. H. Haines
Fort Jones----------T. J. Wayne
Montague----------Hugh W. French
Sisson----------Dr. Paul Wright
Yreka----------Dr W. F. Shaw
Solano County—
Dr. W. C. Jenney----------Vacaville
Benicia----------Dr. P. B. Fry
Dixon----------H. G. Grove
Fairfield----------F. L. Morrill
Rio Visto----------Geo. Adcock
Suisun----------Dr. A. G. Bailey
Vacaville----------W. F. Hughes
Vallejo----------Dr. E. A. Peterson

LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.

Sonoma County—
Dr. F. O. Pryor-------------Santa Rosa
Cloverdale----------------E. E. Gibbins
Healdsburg-----------Dr. J. W. Seawell
Petaluma-------------Dr. R. B. Duncan
Santa Rosa---------Dr. Jackson Temple
Sebastopol---------------Dr. W. J. Kerr
Sonoma-----------------J. H. Albertson
Stanislaus County—
Dr. J. L. Hennemuth------Modesto
Modesto--------------Dr. J. W. Ransom
Newman-----------Dr. H. V. Armistead
Oakdale---------------Dr. E. R. Clarke
Turlock--------------Dr. W. L. Wilson
Sutter County—
Dr. W. L. Stephens-------Meridian
Yuba City---------------Dr. J. H. Barr
Tehama County—
Dr. E. E. Thompson-----Red Bluff
Corning---------------Dr. O. F. Rudolph
Red Bluff------------Dr. Walter Gavey
Tehama-------------Dr. Mary B. Poket
Trinity County—
----------------------- Weaverville

Tulare County—
Dr. A. W. Preston-----------Visalia
Dinuba------------------Dr. A. N. Loper
Exeter-------------------Dr. W. R. Tyler
Lindsay----------------Dr. C. W. Locke
Porterville-------------Dr. O. C. Higgins
Tulare-------------------Dr. J. B. Rosson
Visalia----------------Dr. A. W. Preston
Tuolumne County—
Dr. Wm. L. Hood-----------Sonora
Sonora----------------Dr. Wm. L. Hood
Ventura County—
Dr. A. A. Maulhardt------Oxnard
Fillmore-----------Dr. Will R. Manning
Oxnard-------------Dr. G. A. Broughton
Ventura---------------------J. H. Hardy
Santa Paula-------------Dr. G. C. Nichols
Yolo County—
Dr. W. J. Blevins--------Woodland
Davis--------------------Dr. W. E. Bates
Winters-------------------C. M. Norton
Woodland------------------W. W. Brown
Yuba County—
Dr. J. H. Barr-----------Marysville
Marysville-------------Dr. A. L. Miller
Wheatland-------------W. H. Niemeyer

39583 7-18 5000

List of Diseases Reportable by Law

Anthrax
Beri-beri
Cerebrospinal Meningitis (Epidemic)
Chickenpox
Cholera, Asiatic
Dengue
Diphtheria
Dysentery
Erysipelas
German Measles
Glanders
*Gonococcus Infection
Hookworm
Leprosy
Malaria
Measles
Mumps
Ophthalmia Neonatorum
Paratyphoid Fever
Pellagra
Plague
Pneumonia (Lobar)
Poliomyelitis
Rabies
Rocky Mountain Spotted (or Tick) Fever
Scarlet Fever
Smallpox
*Syphilis
Tetanus
Trachoma
Tuberculosis
Typhoid Fever
Typhus Fever
Whooping-cough
Yellow Fever

*Reported by office number. Name and address not required.

Quarantinable Diseases

Cerebrospinal Meningitis (Epidemic)
Cholera, Asiatic
Diphtheria
Leprosy
Plague
Poliomyelitis
Scarlet Fever
Smallpox
Typhus Fever
Yellow Fever

Section 16, Public Health Act. All physicians, nurses, clergymen, attendants, owners, proprietors, managers, employees, and persons living in or visiting any sick person in any hotel, lodging house, house, building, office, structure, or other place where any person shall be ill of any infectious, contagious, or communicable disease, shall promptly report such fact to the county, city and county, city, or other local health board or health officer, together with the name of the person, if known, and place where such person is confined, and nature of the disease, if known.

THE greatest stimulus to health conservation would be, I believe, health insurance. We ought to establish health insurance throughout the nation, preferably by national action if that be possible, but as it probably is not, then by state action. Already nine states have commissions at work on this subject. We are the one great industrial nation that does not have health insurance, and when we secure it, we will have, I believe, what is one of the necessaries, or at any rate, one of the great engines for an efficient democracy.

—IRVING FISHER.